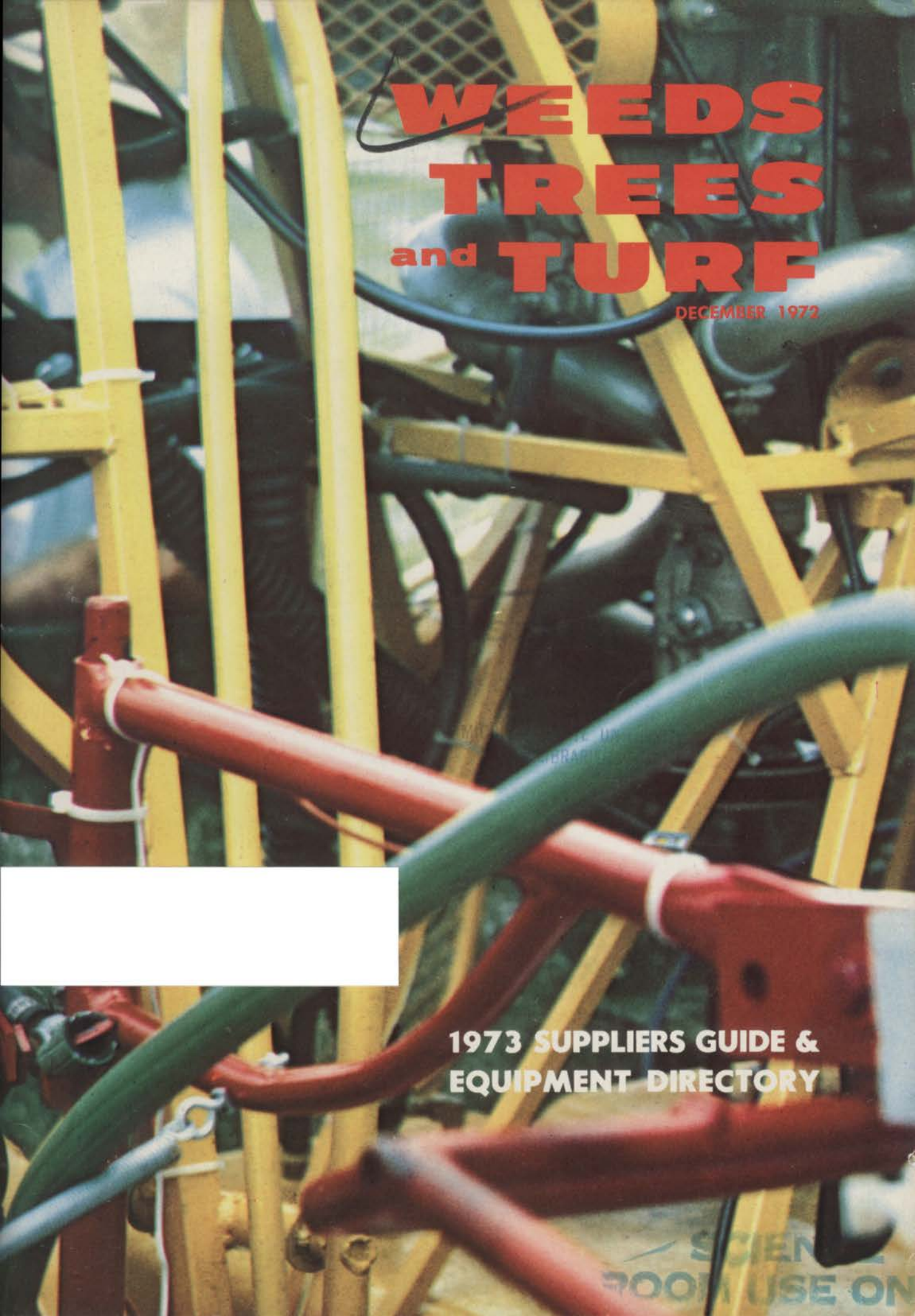

WEEDS TREES and TURF

DECEMBER 1972

1973 SUPPLIERS GUIDE & EQUIPMENT DIRECTORY

TOTAL TURF CARE IS HERE!

Get a full course of protection against weeds and disease.

acthal®

art your Total Turf Care this year ith Dacthal W-75 herbicide. Or use e convenient 5 percent granular rm if you like.

Dacthal gets the jump on most nnual grasses and broadleaf weeds. his preemergence herbicide revents weeds as they germinate. rabgrass and *Poa annua* don't have chance. Yet, Dacthal is a truly lective herbicide that will not affect stablished grass. It's even safe for ew grass when used according to bel directions.

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or those areas where broadleaf eeds are a problem, use Dacamine rf herbicide to sustain your Total rf Care. Postemergent Dacamine lls dandelion, plantain, poison ivy nd most other broadleaf weeds.

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et this Total Turf Care dial to help ou solve many turf problems. Just a wist of the wrist helps you identify a roblem and select a treatment. Send he coupon today for your Total Turf are dial. Always remember to follow he label directions when using ny chemical.

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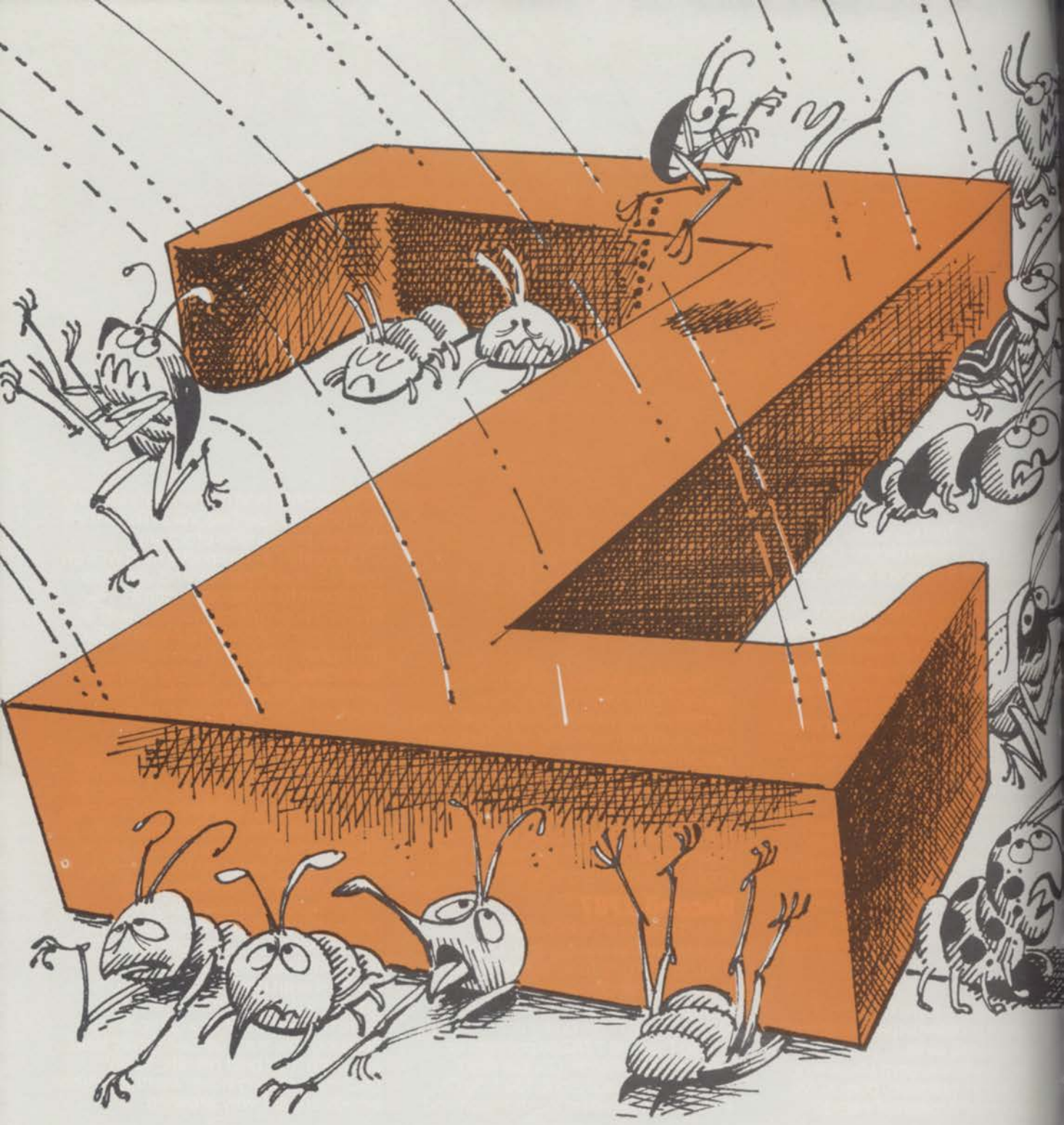

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WEEDS TREES and TURF®

Volume 11, No. 12 December, 1972

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Vegetation Maintenance 12
Like most everything else in the Lone Star State, vegetation problems are Texas size. Environmental demands have added increased concern among the public and vegetation maintenance firms to insure that weed and brush control is accomplished effectively. Here's a report on the 7th annual Industrial Weed Control Conference at Texas A&M University.

Sod For A Mobile Home Estate 16
Mobile home communities are gaining in importance in an effort to ease the need for housing. A few permanent buildings, pads and mobile homes can make excellent housing in short order. Add sod and the result is practically an instant "green" community.

They Tip 'em To Test 'em 20

Collecting That Hard Earned Dollar 21
Tips for anyone in the contractural services business on what to do during the off season.

Suppliers Guide and Equipment Directory 23

Article and Author Index For 1972 71

Tidewater and Metropolitan Shade Tree Conferences Discuss Benlate Fungicide 74

Green Industry Associations 75

Editorial	9	New Products	80-81
Government News/Business	11	Sod Industry Section	82
Industry People On The Move	84	Classifieds	88-89
Insect Report	79	Advertiser's Index	89
Meeting Dates	87	Trimmings	90

The Cover

Several hundred "green industry" members were in attendance the day this photo was taken. Most were busy listening to the speaker who was demonstrating equipment. Others were thinking about a delicious fish dinner and an impending shower that had overcast the Florida sky. To those few who have guessed what kind of equipment is shown here, we offer our congratulations. It's the boom of the Directa-Spray nozzle suspended from an air boat. The photo was taken at the USDA Experiment Station at Fort Lauderdale, Fla. We believe it depicts a segment of the "green industry" and is appropriate for the cover of the Suppliers Guide and Equipment Directory which begins on page 23. It is followed by a comprehensive Article Index and Author Index on page 71.

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For More Details on the Following Page Circle (147) on Reply Card

Your third step to healthier turf

DU PONT
TERSAN®
Snow Mold
Pythium
SP
TURF FUNGICIDE
ACTIVE INGREDIENT:
INERT INGREDIENTS
CAUTION! Keep out of reach of children.
MAY IRRITATE EYES, NOSE, THROAT, AND SKIN.
Avoid breathing dust or spray mist.
Avoid contact with skin, eyes, and clothing.
GENERAL INFORMATION— Du Pont "Tersan" SP Turf Fungicide is recommended for the treatment of turfgrasses for the control of snow mold (Typhula) and Pythium blight.
Do not re-use container; bury when empty. Do not graze or feed clippings from treated areas to livestock.
NET 3 LBS.
E. I. DU PONT DE NEMOURS & COMPANY (INC.)

3 Fall is the time to take it

If you're following the Du Pont TERSAN 1-2-3 Disease Control Program, you've already got spring and summer turf diseases licked.

Now's the time to prevent fall diseases—take your third step to healthier turf, the application of TERSAN SP on tees, fairways and greens.

TERSAN SP gives superior control of Gray Snow Mold and Pythium. These diseases will be the major problem, depending on your area, during the fall and early winter months.

TERSAN SP, like the other Du Pont TERSAN fungicides, is non-mercurial, low in human toxicity and has a large safety factor on turf.

Now is the time to take the third step in your Du Pont Disease Control Program or, if you haven't been on it, it's the time to start. You'll find the TERSAN Program is highly effective, economical...and *complete*. Prevents or controls all major turf diseases on all common grasses all year long.

NOTE: Applications of Du Pont TERSAN 1991 turf fungicide should be used in the late fall and early spring in areas where Fusarium Patch (Pink Snow Mold) is a problem.

Your golf course supplier has complete details on the program and a supply of TERSAN fungicides. Give him a call today.

With any chemical, follow labeling instructions and warnings carefully.

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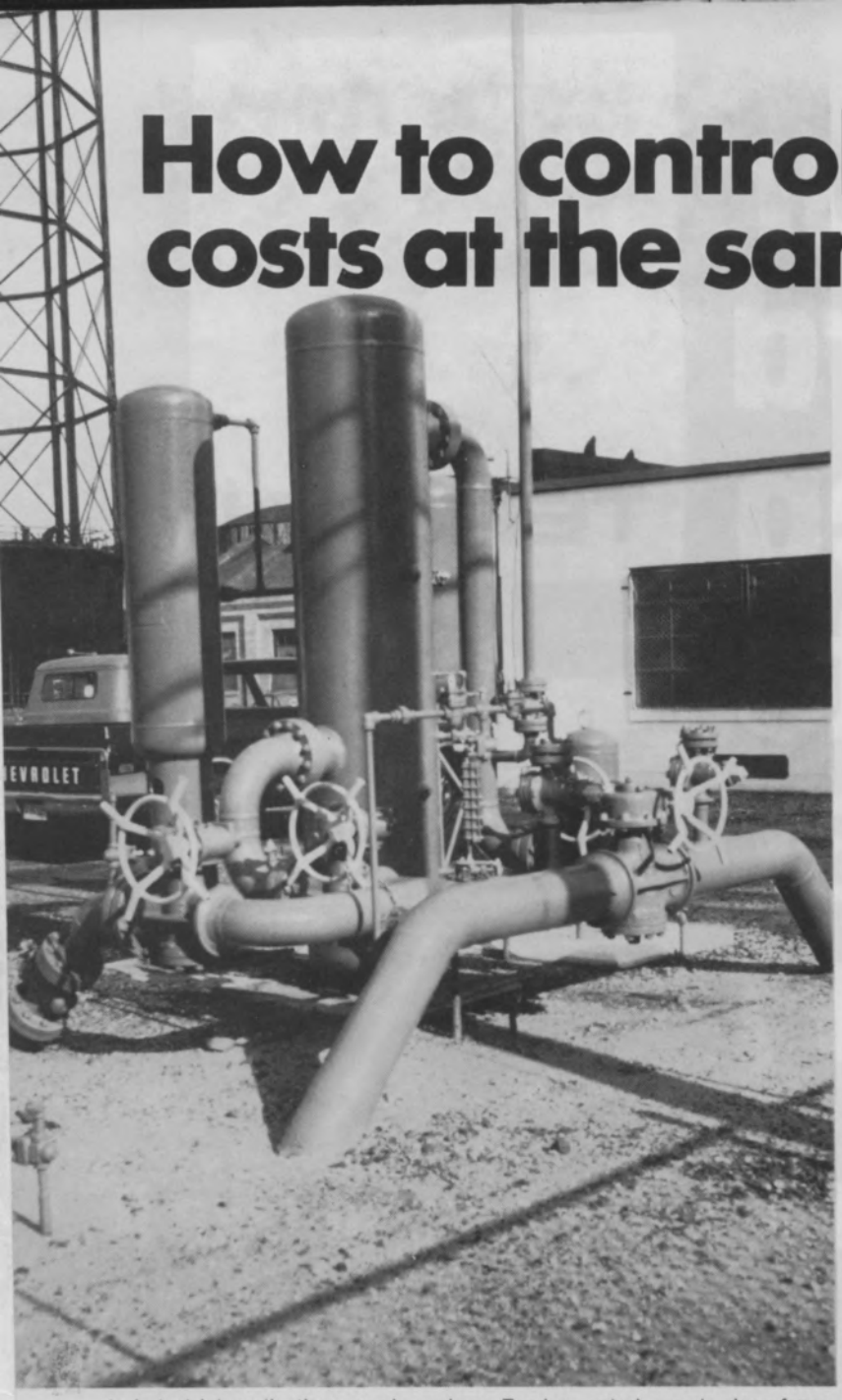
TERSAN® SP
TURF FUNGICIDE

How to control weeds and costs at the same time.



In industrial applications, as shown here, Tandex controls weeds along fence lines, parking areas, ditches, pipelines, sidings, storage areas, tank farms, and sign posts.

Weeds are expensive.

They are everything from a fire hazard to a haven for unfriendly rodents.

They can corrode a fence line.

Make people sick.

Destroy the drainage efficiency of a railroad's right-of-way.

Millions of man-hours and thousands of machines are fighting the war against weeds.

A very expensive war.

Weeds hit some harder than others

The weed onslaught is particularly damaging to such operations as railroads, utilities, oil fields and highways, as well as general industry.

This message is especially addressed to operations like these—it is a message about Tandex®, the soil sterilant that can drastically cut the cost of weed control programs.

Tandex—what it is and what it does:

Tandex is a urea-carbamate compound that's demonstrated exceptional control over weeds, grasses, vines, brush and the hard-to-kill woody species.

Tandex does its weed-killing job by being absorbed through plant roots.

Once applied, Tandex can last a whole season, or longer. Yet it's relatively non-hazardous to man, animals or fish.

A distinct advantage of Tandex is its stability in the soil. Put another way, this means it has minimum lateral movement—which reduces the danger to nearby trees and shrubs you *don't* want to lose.

Tandex can be sprayed or applied in dry granular form. It can also be combined with other herbicides for special control situations.

For more information, write to Industrial Chemicals Dept., Niagara Chemical Division, FMC Corporation, Middleport, New York 14105.

Tandex®
Herbicide

It gets to the root of weed problems

Industrial Chemicals Dept.,
Niagara Chemical Division,
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Tandex® is a registered trademark
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Editorial

A *Quiet* Happy NewYear

Noise, the non-melodious sounds in an action environment, is under something more than a silent attack by the Federal government. Recently released criteria, developed by the Office of Research and Standards Development, National Institute for Occupational Safety and Health, carries strong evidence that workers in the country are being exposed to excessive noise levels. If the criteria and standards are accepted by the Department of Labor, we can expect them to be implemented through the Occupational Safety and Health Act of 1970 (OSHA).

The study was conducted under the auspices of the Secretary of Health, Education and Welfare. Called "Occupational Exposure To Noise," it clearly states that the exposure limits are primarily designed to conserve hearing since this is recognized as the most serious physical problem that noise may cause in humans.

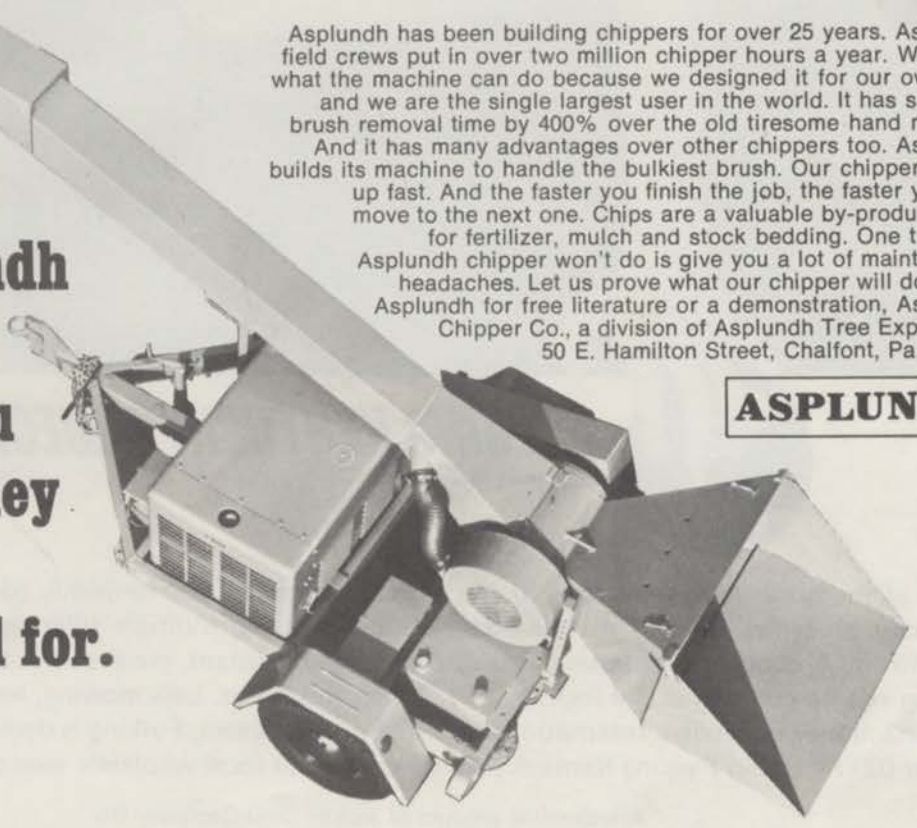
Currently, rules and regulations of OSHA as published in the Federal Register set 90 dBA occupational exposure level for an 8 hour day as the maximum. If the study is accepted and made part of OSHA, an 85 dBA, 8 hour exposure level to all newly designed occupational exposure environments would become effective within 6 months from date of acceptance. Those occupational exposure environments (industries) currently in operation but for which no data has been collected would have additional time in which to comply. No one currently knows how much.

The crux of this report is that many parts of the "Green Industry" are in big trouble. Tractors, mowers, chain saws, chippers — nearly every mechanical piece of equipment — stand a good chance of creating noise levels in excess of the maximum limits. For example, audiograms on 53 tractor drivers of different horsepowered tractors showed noise levels ranged from 92 dB to 106 dB, and occasionally as high as 114 dB. While data is not available, contrast this in your mind to a chipper chewing on a three-inch log or a chain saw winding through a seven-inch limb.

But many of these operations are only temporary; that is, lasting only a few minutes at a time. The study takes this into account. At least three different rules have been proposed in order to assess the hazard of exposure to intermittent noise.

What can "Green Industry" personnel do? The study is not without recommendations. It initially advises the consultation of an acoustical engineer

(continued on page 79)



An Asplundh Chipper makes you more money than you bargained for.

Asplundh has been building chippers for over 25 years. Asplundh field crews put in over two million chipper hours a year. We know what the machine can do because we designed it for our own use, and we are the single largest user in the world. It has speeded brush removal time by 400% over the old tiresome hand method. And it has many advantages over other chippers too. Asplundh builds its machine to handle the bulkiest brush. Our chipper eats it up fast. And the faster you finish the job, the faster you can move to the next one. Chips are a valuable by-product used for fertilizer, mulch and stock bedding. One thing an Asplundh chipper won't do is give you a lot of maintenance headaches. Let us prove what our chipper will do. Write Asplundh for free literature or a demonstration, Asplundh Chipper Co., a division of Asplundh Tree Expert Co., 50 E. Hamilton Street, Chalfont, Pa. 18914.

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Another fine product of Jacklin Seed Company Div.
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Government News / Business

The Environmental Protection Agency (EPA) granted nearly one billion dollars during fiscal 1972. Most programs covered water, air and solid waste management.

Don't be surprised if an OSHA inspector knocks on your door in 1973. The President's budget has just added $27.9 million to the $36.5 million of last year for the agency that operates OSHA. That $64.4 million, total. This increase will permit the Labor Department to make 110,000 inspections during the next fiscal year, officials say.

Del Kennedy has been named vice president of the newly formed Mauget Tree Injection Process, Inc. His duties will include appointing area distributors and coordinating the training sessions for professional arborists in the approved uses of Mauget Tree Injectors. The announcement was made by Dale Dodds, president and general manager for the California based firm.

Looking for tax credit? The Revenue Act of 1971 allows employers to claim a "Job Development Tax Credit" amount to 20 percent of the cash wages paid an eligible welfare employee during his first 12 months on a company payroll. Eligiblity depends on employers hiring workers from the Work Incentive Program, operated through state employment security and welfare agencies. For a brochure and additional information, contact the U.S. Department of Labor.

Members of privately-owned businesses may obtain four reports released by the Manufacturers' Institute on founder/family owned business. Family owned business creates 40 percent of the Gross National Product. The reports describe specific companies as examples of solutions to personal-relationship problems, and show the outcome of these solutions. Observations and comments tie the examples to principles of business management in situations where management of the the family members is a vital ingredient to successful management of the firm. For copies of the reports, write Manufacturers' Institute, Box 228, Oxford, Mich. 48051.

American Garden Products, Inc. has announced intentions to file, in late December, a Registration Statement for an underwritten public offering of approximately 100,000 shares of Common Stock.

Railroad-highway grade crossings. A hazard at best. Now the Federal Highway Administration is doing something about it. John A. Volpe, Secretary of Transportation, has said that a greater share of Federal funds will be abailable to State highway departments for financing crossing improvements.

Vegetation Management

It Makes Dollars And Sense In Texas

By BILL SULLIVAN
Texas A&M University
College Station, Texas

IT'S no secret to managers of weed control services that heightened environmental demands from the public are complicating the job of keeping up with a barrage of new chemicals, equipment and techniques. Weed control services now have to provide effective control programs and at the same time use methods which satisfy the public.

Recently, nearly 125 representatives from the commercial weed control industry sharpened the focus on environmental training and effective vegetation management at Texas A&M University's Seventh Annual Industrial Weed Control Conference.

"The conference was directed toward nonagricultural interests in vegetation management, including the ecological aspects," according to Dr. Wayne McCully, general chairman for the conference. McCully is a professor of grassland management in the Texas A&M Range Science Department.

The conference, held Oct. 16-18, was jointly sponsored by the Texas Agricultural Extension Service and the Texas Transportation Institute as part of the continuing education program of Texas A&M.

"People are becoming afraid and consequently more concerned," said R. L. Robinson, Texas, Electric Service Co. and chairman of the conference steering committee. "These people need to be educated in the ecological aspects involved in industrial weed control."

Robinson added that while extension has done an excellent job in orientating some of its programs to needs of industrial weed controllers, more work is needed in this area.

Dr. William Upholt of the Environmental Protection Agency (EPA) boosted the conference's emphasis on ecological impact of weed control by describing the recently passed Federal Environmental Pesticide Control Act of 1972.

He pointed out that one of the biggest advantages of the new law is that it allows regulatory agencies and users of chemicals "to legally talk" about insect and weed control materials. Under previous regulations these materials were called "ecological poisons" and many users, both commercial and private, were confused about when, where and how to apply the chemicals.

The new act requires EPA to classify all pesticides as to use. Upholt described this as *the most significant portion* of the new act. *Certain chemicals will be used for specific purposes, and some materials will be restricted to trained applicators.*

Upholt, senior science advisor to the assistant administrator for EPA's Categorical Programs, listed other main provisions of the act:

—It brings all pesticides under EPA control regardless of whether or not they are an item of interstate commerce.

—It makes use of a pesticide without regard to label instructions a federal offense.

—It makes possible inspections of plants manufacturing pesticides. Data from inspections will remain confidential.

Under the act, states are authorized to train and certify commercial applicators within standards developed by the federal government.

"We aren't intending to handle this certification federally," the EPA official emphasized. "It would be highly unrealistic for us to set uniform standards because problems vary so much from state to state."

All provisions of the act become effective four years after its enactment.

Talk about the environment was only one phase of the conference. The industrial weed controllers heard authorities speak on vegetation management for rights-of-ways, control techniques for roadsides and ditches, and methods of eliminating aquatic vegetation problems.

"A soil sterilant can be the backbone of an industrial weed control program," contended Dr. A. L. Wiese of the Texas Agricultural Experiment Station. He divided bareground chemicals into two groups—those with little soil residual and those with long soil residuals.

"The shorter residuals remain persistent from one to three weeks and are toxic to all living matter in-

Caldwell Equipment Co.'s version of a flail mower also catches the attention of industrial weed controllers as it is demonstrated and explained. Note the hydraulically controlled wings which can be lifted independently of each other.

cluding seeds, plants and even insects," he added.

"The longer residual chemicals used for broadleaf control are sometimes subject to leaching up to depths of six feet, but they have to move downward far enough to be absorbed by the plant roots. Examples of these chemicals are 236 TBA, Picloram and Tordon.

"Long residual grass killers such as TCA leach readily and remain persistent for three to six months."

Wiese reviewed research done at Texas A&M in which an application of 200 pounds of TCA per acre along roadsides provided effective control of annuals and Johnsongrass. It also gave excellent control of broadleaf perennials.

Wiese suggested that applicators consider pretreatment with bareground chemicals on an area before surfaces such as blacktop are put down.

He reminded applicators that one of the biggest dangers in using soil active herbicides is lack of control and that it is especially easy to get herbicide drift on steep slopes.

"Along fences, roads and around industrial sites combinations of a soil sterilant and a contact herbicide should be considered for quick knockdown or rank growth and residual action to prevent regrowth," suggested Dr. E. F. Eastin of the Soil and Crop Sciences Department at Texas A&M.

He recommended that applicators using non-selective contact herbicides on perennials make their treatments during dormant stages of plant growth.

Eastin pointed out that a new foliar applied, systemic chemical called Roundup (Monsanto) was showing good results in control of rhizome Johnsongrass. However, the chemical is still in developmental stages.

In another part of the conference authorities on aquatic weed control told participants to be sure of the ultimate use of the water before devising a control program.

"There is no one-shot program in aquatic weed control," commented Dr. A. J. Foret of the University of Southwestern Louisiana. "A program has to be thoroughly planned and repeated. The biggest asset in aquatic weed control is our ability to manipulate the level of the water itself."

He mentioned cases in Louisiana where manipulation of water levels aided in control of water lillies, duckweed and even some woody species such as willow.

Foret presented some general cost figures on different methods of aquatic vegetation control. Vegetation control costs with mechanical equipment can run as high as $300-$900 per acre. The Army Corps of Engineers has a one man saw-boat that shreds vegetation at a cost of $20-$30 per acre. Chemical control costs about $20 per acre for duckweed and about $30-$40 per acre for water hyacinth.

Two of the newer ideas being used in aquatic weed control are spray application from V-shaped booms that reduce chances of snagging vegetation and application by heavy hoses that drag the bottom.

"Unfortunately we can't control the water level and hope to get rid of algae," said Jim Davis, a Texas extension fisheries specialist.

He also revealed that there has been little success in attempting to

(continued on page 85)

Several industry representatives inspect the cutting job done by this Mott flail mower. Complete hydraulic control makes the mower and tractor easy to operate. This unit has a wing on each side and one in the rear.

Part of the 125 industrial weed controllers at the conference's field demonstration observe a movable 250 gallon fiberglass spray tank which has its own engine mounted on the frame. Either a fixed nozzle or a hand-held wand can be used with the tank.

Assoc. Landscape Contractor Faults Highway Construction

"Survival in the roadside landscape business has become a real chore. The guidelines under which we operate, in many cases, hinder more than help our survival," said Norman Gay, president of the Associated Landscape Contractors of America, who recently addressed the Ohio Short-Course on Roadside Development in Columbus Ohio.

According to the chief elected officer of the 400 member trade association, a major point of criticism is simply red tape.

"A waiting period of final payments in some places can be one year or longer. Many times this money is the landscape contractor's working capital. Without a friendly banker he can be in trouble and this is on contracts with protective payment and performance bonds," Gray asserted.

"There should be no release on final payments to a general contractor until he has proper payment releases for all material payments and final payments to all concerned."

Gray pointed out that the current conditions in landscape contracting are contributing to the 32% annual attrition rate in the landscape industry, the highest in the construction field.

"On sodding," according to the Mansfield, Massachusetts landscape contractor, "we are told how to do it, when to do it, the kind and quantities of seed and fertilizer to use. Many times we are directed to seed inert material without organic content. In many contracts. instructions on seeding are written without the benefit of a soil test." After such imposed restrictions, the landscape contractor is told he must guarantee grass growth.

Gray endorsed the American Sod Producers Association for their "excellent job in updating specifications for sodding operations" particularly as it relates to thickness of cuts; and suggested they be considered whenever possible.

He recommended the following payment schedule: 5% limitation on retainage; 10% retained until 50% of the job is complete, afterwhich no more than 5% is retained; 2% on jobs over $250,000 once the entire job has been substantially complete. Owners should be obligated to put retentions in escrow with the interes accrued to the benefit of the contractor. When a project is complete, final payments should be made within 30 days.

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With one hand you can mow across any grade that you can walk across. Independent power to each traction wheel prevents side-slipping.

- Heavy-gauge steel frame for low maintenance
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BUNTON MODEL 52-10TCI WITH OPTIONAL 3252 RIDER

Power steering levers for quick turning and self-propelling. Rider attachment changed without tools from riding to walking.

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- Close trimming with both sides.
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- Twin blades (not synchronized) suction lift type.
- Adjustable leaf-mulcher guard.

Sod For A Mobile Home

In 1971, there were approximately one million American families living in mobile homes. That figure has already increased immeasurably in 1972 and will continue to go up as more mobile home parks are established and coaches themselves continue to incorporate the spaciousness, convenience and luxury features found in the most affluent of homes.

Mobile home park is really a misnomer, for most people who purchase coaches today see them as permanent homes in a permanent locale. In fact, the "move" factor with mobile homes is less than with conventional housing.

One reason for this: the extensive facilities that are being offered by mobile home park developers. A prime example is Pacific Western Mobile Estates, Inc., a newly opened mobile home community in San Jose.

It is an extensive 72 acre complex, located off Highway 17 at Trimble and Oakland Roads in North San Jose. Really, it is two mobile home parks in one. There are a total of 618 lots, 370 in one are for adults and 248 in another area for families.

Facilities, centered in two clubhouses, include an indoor hydrotherapy pool, saunas, launderettes, hobby, exercise and billiard rooms, lounges, and large community rooms with adjoining kitchens for the use of all residents.

Outdoor recreation is enhanced by two swimming pools at each recreation center; shuffleboard, tennis, badminton and volleyball courts, and a 9-hole putting green.

A natural environment is of paramount importance in the planning of a Pacific Western Mobile Home Estates community. It is most obvious in the changes taking place at the San Jose park, as a once bare area is being turned into lush green expanses of lawn, creating a park-like setting throughout the mobile community.

The landscaping itself is being done by Town and Country Landscaping and Supply Company in Los Gatos and it can be called "instant" landscaping in every sense of the word.

Since the mobile home community is already open, Pacific Western specified that the landscaping be completed as soon as possible. To those who are witness to what is taking place, it is almost a miracle to see what "instant" landscaping is all about.

Much of the miracle is being created by Nunes Turfgrass. Town and Country estimates that 50,000 square feet of sod, or nearly two acres, all from Nunes Turfgrass Nurseries in Patterson, will ultimately be used in its landscaping program for Pacific Western, much of it in the area surrounding the man-made lake at the entrance to the mobile home community and the recreation/clubhouse areas that form the nucleus for both the adult and family section.

The entry to a Pacific Western mobile home community has become a trademark for the rapidly-expanding company, a division of the Hallmark Group Companies, Inc. A landscaped avenue marked by an expanse of green lawn on both sides, leads toward the recreation center accented by a graceful fountain illuminated at night with multicolored lights.

During the past few weeks, residents at Pacific Western have seen the expanse of lawn actually become a reality in a matter of hours.

The sod, or instant grass, comes to Pacific Western from Nunes turf growing grounds in Patterson, headquarters for the largest turf-producing company in California.

Town and Country actually places the order for the sod that will be needed for each installation the day before actual delivery. The sod itself is cut the morning of the delivery day.

A Nunes Sod Harvester cuts the sod in precise strips 6 feet long and 18" wide. It lifts the sod from the ground, rolls each strip compactly for delivery to pallets that are then placed on the delivery trucks. Once it arrives in San Jose, the forklift truck unloads each pallet as it is needed by the workmen.

Installing sod is much like installing tiles. Each strip fits end to end, and like tile or carpeting, the sod can be cut to curve around concrete

Completed recreation center lawn increases the appeal of the mobile home complex instantly. It takes a crew of three men, working seven hours, to put down approximately 7500 square feet of sod a day.

Estate

patios or circle statuary.

In addition to the installation of Nunes Turfgrass throughout the park, Town and Country is incorporating over 1300 trees into the overall plan for Pacific Western, including the planting of several dozen mature olive and palm trees around the two clubhouses and recreation centers.

John Anderson of Town and Country no longer uses seed in his landscaping programs, especially like the one at Pacific Western," he says. A three-man crew, working seven hours, can turn bare dirt into a lush green lawn covering aproximately 7500 square feet in just one day. Sod gives a completed look to a new area, a factor of prime importance in an area that is seen by the public daily.

To seed the extensive areas at Pacific Western now being covered with sod would not only take much longer, it would require crews on constant duty to water, fertilize, weed until the lawn is established months later. Nunes Turfgrass is giving to Pacific Western in two weeks what it would take nine months to achieve with seed.

More importantly, it is giving a permanent and established look to a brand new community and also will give immediate use of greenbelt areas to residents. This points up the most dramatic use of turfgrass, and why more and more private individuals as well as commercial firms are turning to sod.

Workmen from Town and Country Landscaping and Supply Company of Los Gatos unroll strips of sod. The bare dirt yard in front of the recreation center at Pacific Western Mobile Estates complex is quickly transformed into lush green grass.

Strips of sod are rolled down end to end to create an "instant" lawn. In a few short hours a bare area can become a site of beauty.

This Nunes sod harvester can cut, lift, roll or slab and palletize more than 1000 square yards of sod per hour.

Big Tree Moving Operation Completed At Opryland U.S.A.

One of the South's biggest tree-moving operations has been completed at the new 369-acre Opryland U.S.A. entertainment complex. It opened May 27, 1972 and will be the home of radio station WSM's new Grand Ole Opry House in 1974.

The complex will house other musical and general entertainment attractions, such as puppet shows, five musical areas depicting various periods and styles of music, wild and domestic animals, and amusement rides. It is near the Cumberland River, four miles north of I-40 at the intersection of U.S. 265 and 65 on Briley Parkway, near Nashville, Tennessee.

One-fourth of the Opryland complex is woods and the trees were transplanted fast enough to keep up with contractors who are building roads, constructing lakes and laying underground utilities. With the help of the two "tree spades"—one truck-mounted and one pulled by farm tractors—nearly all of the trees that were originally on the site have been saved.

An Allis-Chalmers Corp. One-Sixty tractor pulled the Model TS44 tree spade, made by the Vermeer Co. The Model TS66 can automatically dig and transplant a 40 ft. tree in minutes.

"This was the first time in the middle Tennessee area, and possibly in the Southeast, that such a large tree mover has been used," said Mike Downs, general manager of Opryland U.S.A. "We moved nearly 5000 trees."

Because construction began before many of the trees could be transplanted, Ben Moore, Opryland's landscape manager, developed a temporary tree nursery. At one time, the nursery contained more than 400 trees waiting to be transplanted, complete with existing birds' nests.

"We took every precaution to preserve our beautiful trees," Mr. Moore said.

When it is done, unlike other major theme parks, Opryland U.S.A. will present the authenticity and uniqueness of America, rather than fantasy. The central themed areas of the 110 acre entertainment park are composed of five "towns" which highlight America's bread and butter music — jazz and blues, country, folk, western and contemporary music — all set in the natural surroundings of 369 acres of Tennessee woods and hills.

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The mower that steers with the touch of a finger. Optional extra's: 2.5 bu. all metal grass catcher, dump or lift-off without tools, rider attachment may be changed instantly and without tools, from riding to walking. 8 H.P. Synchro-balanced engine.

- **Goodall Heavy-duty self-propelleds — 24, 28, 32, 36 and 52 inch cuts.**

GOODALL MODEL 36G-8BSB WITH 3252G RIDER
Puncture proof tires set in and behind cutting unit, enables you to trim close with both sides. 10 H.P. cast iron engine.

- **Power steering with finger-tip turning levers**
- **Five forward ground speeds, independent of engine or blade speed.**
- **Mows across any grade you can walk across.**
- **Heavy-gauge steel frame, for low maintenance.**
- **Adjustable leaf-mulcher-guard.**

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They Tip'em To Test'em

Built-in safety features in modern equipment are taking on new meaning with passage of new safety laws. Stresses and strain of metals must be accurately computed before machinery is placed on the market.

In this unusual series of photos, engineers at New Holland Division of Sperry Rand deliberately put this loader through a roll test. The loader's low center of gravity and general stability posed a problem initially in starting the roll. But manpower converted into horsepower started the sequence (above). Upper left photo starts the action. Top above, the loader bites the dust. Inertia keeps the brute on the roll. Next comes the bounce (bottom left). Loader at end of test, below is no worse for the wear.

Tip'em, Twist'em, Toss'em and Turn'em; todays loader will take the toughest beating.

Collecting That Hard Earned Dollar

By HANK HARVEY, JR.
Arborist
Rutledge, Pennsylvania

AS UNFAIR as it seems, the hardest part of some jobs is not doing the work, it's getting paid for it. Certainly nothing can put a businessman on the defensive like having money overdue to him. This is especially true for the service contractor who has nothing tangible to repossess and thus very little recourse for non-payment.

It should be pointed out that delinquent accounts usually make up only a small number in most service operations. Most people are anxious to pay for services rendered. It is the exceptions about which this article is concerned.

The best advice in these few cases might be to take positive steps which would preclude, or at least reduce, the possibility of your getting into such a situation in the first place.

How?

Well, for starters, you should be careful with whom you deal, especially on a verbal contract. (I've found that many people fear or resent a written *contract* as such. One way to get past this psychological barrier is to have yours called an *agreement* or a *work order* or some other less offensive name.)

If you must use a verbal contract, at least write up the specifications for the job and make sure your customer has a copy—before you start the job, to refer to later if there is any misunderstanding. Your printed estimate or job order form should have printed on it **Payment Due Upon Completion, Terms: Cash,** or something similar which will protect you from the "slow-pays."

There is no sure way to spot a "No-Pay" or "Slow-Pay in advance, but there are a few good indicators:

Does the party you are bidding for actually **own** the property? I have experienced cases where a tenant, fed up with unsatisfactory conditions, decided to contract out work expecting the landlord to pay for it. In such a case, the tenant assumes no risk . . . it's not his place. The landlord won't pay, he didn't contract for the work. Who then is the poor contractor supposed to collect from?

Another area where extreme care is in order is that of doing subcontract work for larger contractors. Often the prime contractor on a large job will intentionally use subcontractors to avoid taking risks

(continued on page 88)

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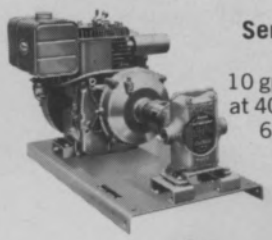

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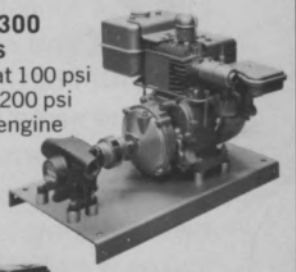

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1973 SUPPLIERS GUIDE AND EQUIPMENT DIRECTORY

1972 ARTICLE INDEX

As a special service to readers, WEEDS TREES AND TURF presents the 1973 Suppliers Guide and Equipment Directory. This annual directory and guide has been thoroughly updated. Chemical and equipment manufacturers are now listed two ways, name of company and products manufactured, and product groupings and companies manufacturing those products.

The "Green Industry" is dynamic. New products and new additions to product lines are constantly changing. Consequently, omissions of manufacturers and/or products are unavoidable. Your comments and suggestions are invited to help improve future editions.

Following the directory is an index to the articles that appeared in the 12 issues of WEEDS TREES AND TURF in 1972. An author index is listed at the end.

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3M Company (M)
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SYSTEMIC

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Lakeshore Equip. & Supply Co. (D)
Mallinckrodt Chemical Works (M)
J. J. Mauget Co. (F)
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Pennwalt Corporation (M)
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Velsicol Chemical Corp. (M)

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Nalco Chemical Co. (F)
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Randustrial Corporation (F)
Southern Mill Creek Products Co., Inc. (F)
U.S. Borax & Chemical Corp. (M)
West Chemical Products, Inc. (M)

BRUSH

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J. J. Dill Co. (D)
E. I. Du Pont de Nemours & Co., Inc. (M)
Niagara Chemical Div., FMC Corp. (M)
Velsicol Chemical Corp. (M)

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J. J. Dill Co. (D)
E. I. Du Pont de Nemours & Co., Inc. (M)
Gulf Oil Company (M)
Niagara Chemical Div., FMC Corporation (M-F)
Rhodia Inc., Chipman Div. (M-F)

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Dow Chemicals USA (M)
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Elanco Products Company (M)
Gulf Oil Company (M)
Mallinckrodt Chemical Works, Inc. (M)
Niagara Chemical Div., FMC Corporation (M)
Pennwalt Corporation (M)
Rhodia Inc., Chipman Div. (M)
O. M. Scott & Sons Co. (F)
Stauffer Chemical Co. (M)
Thompson-Hayward Chemical Co. (F)
Tuco Div., Upjohn Company (M)

PREEMERGENCE

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Agway, Inc. (F)
Ciba-Geigy Corporation (M)
Diamond Shamrock Chemical Co. (M)
J. J. Dill Co. (F, D)
Dow Chemical USA (M)
E. I. Du Pont de Nemours & Co., Inc. (M)
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Fasey & Besthoff, Inc. (F)
Gulf Oil Company (M)
Hercules, Inc. (M)
Mallinckrodt Chemical Works (M)
Masonite Corporation (F)
Miller Chemical & Fertilizer Corp. (F)
Nalco Chemical Co. (F)
Pennwalt Corp., Agchem-Decco (M)
Ralston Purina Company (F)
Rhodia Inc., Chipman Div. (M-F)
Rockland Chemical Co., Inc. (F)
The O. M. Scott & Sons Co. (F)
Southern Mill Creek Products Co., Inc. (D)
Stauffer Chemical Co. (M)
Thompson Hayeard Chemical Co. (M-F)
Tuco Div., Upjohn Co. (M)
Velsicol Chemical Corp. (M)

POSTEMERGENCE

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Diamond Shamrock Chemical Co. (M)
J. J. Dill Co. (F)
C. B. Dolge Company (F)
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AQUATIC

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Hydroponic Chemical Co. (F)
Hydro Turf (F-D)
International Minerals
& Chemical Corp. (F)
Lakeshore Equip. & Supply Co. (F-D)
J. J. Mauget Co. (F)
Miller Chemical & Fertilizer Corp. (F)
Plant Marvel laboratories (F)
Rhodia Inc., Chipman Div. (F)
The O. M. Scott & Sons Co. (F)
Sierra Chemical Company (F)
Sudbury Laboratory, Inc. (F)
Vistron Corporation (F)

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E. I. Du Pont de Nemours
& Co., Inc. (M)
Elanco Products Company (F)
Ferti-Feeder (F)
Hercules, Inc. (M)
Lakeshore Equip. & Supply Co. (D)
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Ra-Pid-Gro Corp. (F)
Rockland Chemical Co., Inc. (F)
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The O. M. Scott & Sons Co. (F)
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Agrico Chemical Co. (M-D)
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Atlas Chemical Industries,
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& Co., Inc. (M)
Colloidal Products Corporation (M)
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Foam System, Inc. (M)
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Ferguson Fumigants, Inc. (M)
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Shell Chemical (M)
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Winru Chemical & Sales Co. (D)

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Hydro Turf (D)
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Dow Chemical USA (M)
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CLAY

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NEW FROM PURDUE UNIVERSITY
SODCO KENTUCKY BLUEGRASS

U.S. Patent 3135, 3175, 76, 77

Dr. W. H. Daniel, Purdue University, devoted 15 years of breeding, observation and comparison of bluegrass selections before the release of SODCO in 1967. Each of the four lines that make up SODCO were granted patents during 1972. SODCO has exceptional eye appeal due to its firm texture and very dark green color.

SODCO KENTUCKY BLUEGRASS has outstanding disease resistance and has received superior disease ratings in tests from major universities and turf organizations for:

—STRIPE AND FLAG SMUT RESISTANCE
—LEAFSPOT RESISTANCE
—POWDERY MILDEW RESISTANCE
—STEM AND LEAF RUST RESISTANCE

SODCO is a dwarf type variety with low growth profile and slower rate of leaf extension. Shade studies and greenhouse tests have proven SODCO to have SUPERIOR SHADE TOLERANCE over other bluegrass varieties.

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P.O. Box 158, ROMNEY, INDIANA 47981
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(509) 547-1771

SODCO KENTUCKY BLUEGRASS IS PREFERRED BY THOSE WHO KNOW TURF

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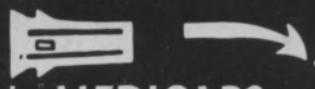
Melroe Mfg. Co.
Servis Equip. Co.
Simplicity Mfg. Co., Inc.

One Small MEDICAP EQUALS 4 Lbs. of "Chlorosis Mix" or 2 Gal. of Foliar Spray



IRON MEDICAPS The Chlorosis Treatment that Really Works in Trees!!

FOR YEARS TREE EXPERTS HAVE ATTEMPTED TO CONTROL IRON CHLOROSIS WITH EXPENSIVE FOLIAR SPRAYS, OR BY APPLYING HIGH RATES OF "CHLOROSIS MIXES" TO THE SOIL . . . BASED ON RATES OF IRON MATERIALS NORMALLY RECOMMENDED—ONE IRON MEDICAP HAS SHOWN TO BE **MORE EFFECTIVE** THAN THE COMPARED RATES OF FOLIAR OR SOIL APPLIED IRON.

— WHY?? —

WHY IRON FOR TREES?—Iron as a micronutrient is essential to the formation of chlorophyll in all plants. A tree's inability to obtain iron will cause leaves to yellow and prematurely drop. If not corrected, these symptoms are followed by poor root development and eventual decline and loss of the tree.

WHY AREN'T SOIL AND FOLIAR APPLICATIONS ALWAYS EFFECTIVE?

If soil pH isn't nearly neutral, the iron in the soil (or applied to the soil) is not available to the tree. For example, in arid regions soil alkalinity sharply reduces iron availability. In extremely sandy or other well-drained soils, the iron cannot be retained in the soil solution. Heavy watering (such as in turf areas) further complicates the problem in both alkaline or well-drained soils.

Foliar applications, if effective, are usually temporary. Repeated spraying is required to maintain green foliage. If trees are in a state of decline, there is very little foliage present, thus less chance for "leaf absorption" of the material being sprayed.

WHY MEDICAP INJECTION?

MEDICAPS place the iron material right where it will go to work—directly into the sap stream of the tree!! MEDICAPS cartridges are pre-measured, pre-packaged, and ready for implanting into the tree trunk. MEDICAPS injection is more efficient and more exacting. This is why they are normally more effective than soil or foliar applications. MEDICAP injection is fast and easy. The only equipment required is a drill and hammer. The patented design of the MEDICAP cartridge enables it to effectively seal the material **inside** the tree, yet allows the tree to quickly heal over the injection site.

TREE SYSTEMS T.M.

MEDICAPS

★ TESTED BY LEADING UNIVERSITIES
★ PROVEN BY LEADNG ARBORISTS

★ Two years of evaluating MEDICAPS by leading university researchers have shown the effectiveness of IRON MEDICAPS in correcting chlorosis, and the lasting control that they provide.
★ Leading arborists across the country have proven that Iron MEDICAPS are not only more effective than previous chlorosis remedies—BUT EQUALLY IMPORTANT, labor and application costs are sharply reduced. For example, a 5" DBH tree can be treated in less than ten minutes with only three STANDARD MEDICAPS (material cost is less than $3.00 at **retail** value). NEW SUPER MEDICAPS provide even greater economy in treating trees above 12" DBH.

INJECT MEDICAPS NOW!

Even if you're in an area where trees are dormant, you can utilize "off season labor" to inject MEDICAPS now. The encapsulated MEDICAP "implants" will be ready to go to work when the tree sap moves upward.

NEW COMBINATION BULK-PAK

Our economical way to introduce you to IRON MEDICAPS. This new COMMERCIAL PACKAGE provides you:

80 STANDARD MEDICAPS
Sufficient to treat up to 27—5" DBH trees.
and
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Sufficient to treat 8—12" DBH trees.
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U.S. Patent Pending

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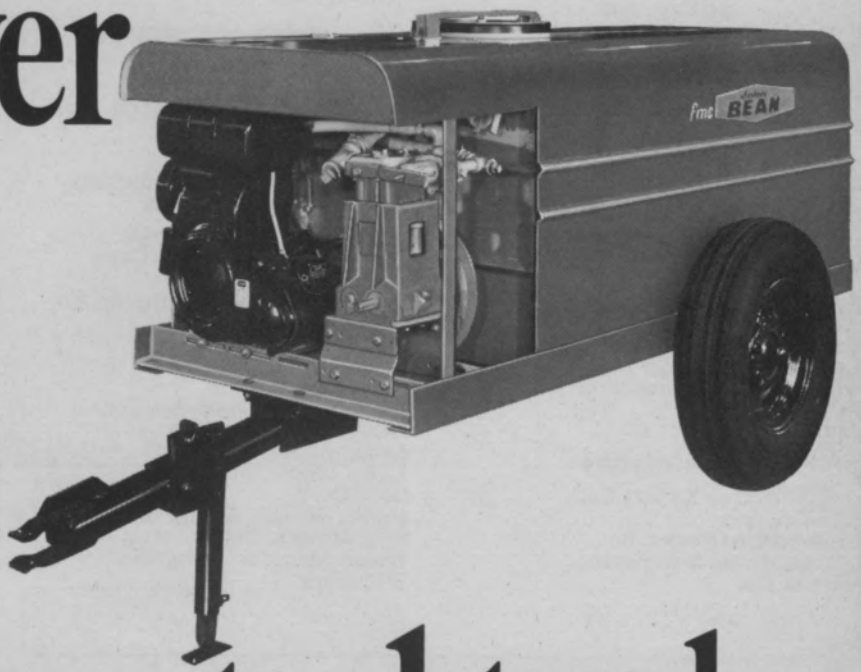
more dependable than ever

Bean-with stainless steel tanks



No matter what your spraying job is, John Bean all-purpose hydraulic sprayers have been proven low and high-pressure performers for many years. Now available with stainless steel tanks on all models. You can be confident of getting the most for your sprayer dollar with Bean.

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DIVISION

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FOR SHADE TREES *Bean sprayers are equipped with quick-adjust guns for solid stream or fine mist applications. Or, select from a range of air sprayers. Ask about the Rotomist with stainless steel tanks.*

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Roll or slab units are interchangeable and the machinery handles rolls or slabs 12 to 20 inches wide (24-inch width machines on special order.)

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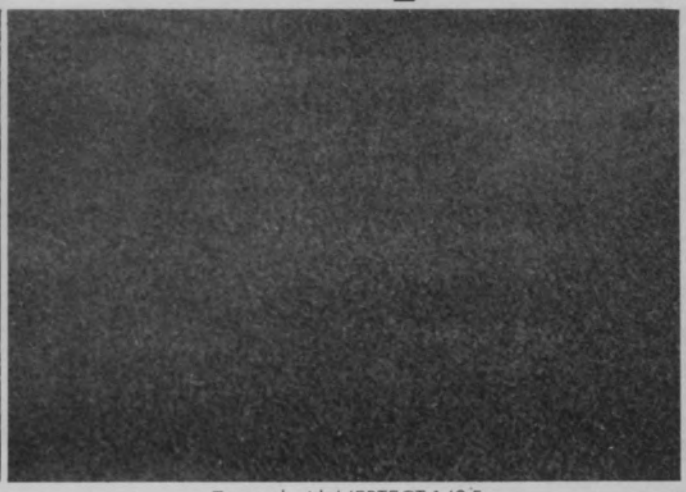
When dollar spot hits, here's how systemic MERTECT® 140-F flowable saves your turf, time, and money.

Untreated dollar spot disease



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These pictures show the kind of dollar spot control you get with flowable MERTECT 140-F. Even against cadmium-resistant strains. It also works well against brown patch and *Fusarium* patch.

And with its special advantages, MERTECT 140-F makes the performance picture look even better.

Being flowable, it saves you time in measuring and mixing. Handling is safer. Dispersion is more complete, so you get the right mixture for more effective results.

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Just follow the label instructions. MERTECT 140-F is not phytotoxic to grasses when used as directed. Your Merck distributor has flowable MERTECT 140-F now. If you don't have his name, write us. Agricultural Products, Merck Chemical Division, Merck & Co., Inc., Rahway, N.J. 07065.

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Saves the minutes that help pay for the hours!

The
Ryan Minute-Miser
multi-purpose utility turf vehicle.

Low cost, low-bed utility trailer with big 35" x 66" bed, available as optional equipment.

Hauling a 3-gang ball picker. Easily tows up to 250 lbs. of tools, chemicals, spikers, trash containers, and other equipment.

Big, soft 6.50 x 8 turf tires on vehicle and trailer protect turf ... provide smoother ride.

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®**DYRENE** 50% Wettable Powder turf fungicide provides outstanding protection against leaf spot, melting-out, copper spot, rust, *Sclerotinia* dollar spot, brown patch and snow mold. Will not clog or corrode spray equipment. No unsightly deposit. Will not stain fabric or shoes when dry.

®**DASANIT** nematicide provides fast contact and long-lasting residual control of nematodes. Merely apply with a granular applicator and drench the soil with water.

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®**BAYGON** 70% Wettable Powder insecticide provides economical, long-lasting control of certain destructive insects attacking turf. Sprays are easy to mix and apply.

®**DEXON** 35% Wettable Powder fungicide is unsurpassed for long-lasting control of *Pythium*. Will not cause leaf burn when applied as directed. Compatible with other turf pesticides.

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Everybody has turf problems. Chemagro has turf solutions.

THIS WAS NOT DISCOVERED!...

but IS A PRODUCT OF MAN'S INGENUITY!

Adelphi

KENTUCKY BLUEGRASS

(U.S. Plant Patent No. 3150)

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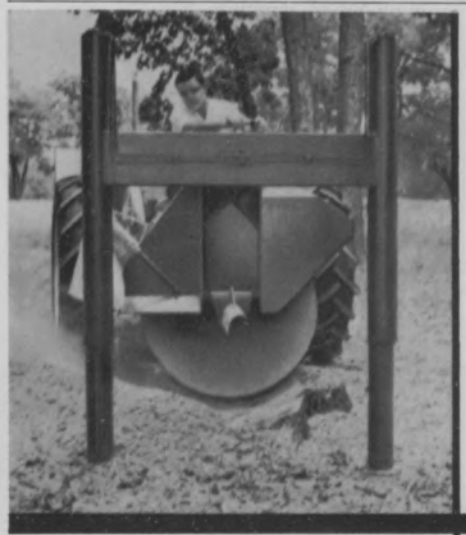

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Friend Mfg. Corp.
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Great Lakes Chemical Div.
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Karl Kuemmerling, Inc.
Martindale Electric Co.
Mine Safety Appliances Co.
Product Development International
Safeline Products
The Vandermolen Co.
Welsh Mfg. Co.
Willson Products Div.
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SAWS, MANUAL

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The Fanno Saw Works
Friend Mfg. Corp.
Harder Arborist Supply Co.
Karl KKuemmerling, Inc.

Seymour Smith & Son, Inc.
Wright Saw Div.

SAWS, CHAIN, HYDRAULIC

Ackley Mfg. Co.
Fairmont Hydraulics
Limb Lopper Co., Inc.

SAWS, CHAIN, ELECTRIC

Stihl American, Inc.

SAWS, CHAIN, GASOLINE

Allis-Chalmers Corp., Outdoor and Leisure Products
Deere & Co.
DESA Industries, Inc.
Ford Tractor Operations, North America
Friend Mfg. Corp.
Hoffco, Inc.
Homelite
Landcaster Pump & Mfg. Co., Inc.
Pioneer Saws, Outboard Marine Corporation
Lombard Power Equipment
Market-Time, Inc.
McCulloch Corporation
Mono Mfg. Co.
Omark Industries, Inc., Oregon Saw Chain Div.
Partner Industries of America, Inc.
Beaird-Poulan, Inc.
Roper Corporation
Skil Corporation
Solo Motors, Inc.
Stihl American, Inc.
Tilton Equipment Co.
Wright Saw Div., Thomas Ind.

SAWS, CIRCULAR, ASOLINE

Solo Motors, Inc.
Stihl American, Inc.

SAWS, CIRCULAR, HYDRAULIC

Ackley Mfg. Co.
Fairmont Hydraulics
Limb Lopper Co., Inc.

SAWS, CIRCULAR, PNEUMATIC

Ackley Mfg. Co.
Limb Lopper Co., Inc.

SAWS, CIRCULAR, ELECTRIC

Allis-Chalmers Corp., Outdoor and Leisure Products
The Black & Decker Mfg. Co.
Friend Mfg. Corp.
Skil Corporation

SAWS, CHAIN, PARTS

Grandberg Industries
Omark Industries, Inc.
Pioneer Chain Saws Ltd.
Product Development International
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Up-Right Scaffolds

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Engineering Products Co.
Gandy Co.
Garber Seeders, Inc.
Gravely Corp.
Herd Seeder Co. Inc.
International Harvester Co.
Jacobsen Mfg. Co.
Larson Machine, Inc.
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Finn Equipment Company
Reinco Inc.

SEEDERS, SOD

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H. K. Porter, Inc.
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Simplicity Mfg. Co., Inc.
Slope Tractor, Inc.
Solo Motors, Inc.
Wheel-Horse Products, Inc.

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Massey-Ferguson, Inc.
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Solo Motors, Inc.
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Hahn, Inc.—West Point Products
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Ryan Equipment Co.
Smithco, Inc.

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John Bean Div., FMC Corp.
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Red Ewald, Inc.
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Papec Machine Co.
Root-Lowell Corp.
Walsh Manufacturing Co.

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Century Engineering Corp.
Contree Sales, Inc.
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LTVAC Service Technology Corp.
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Melnor Industries
F. E. Myers & Bro. Co.
Papec Machine Co.
Root-Lowell Corp.
Spraying Systems Co.
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organic nitrogen

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organic nitrogen

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Finn Equipment Co.
Friend Mfg. Corp.
Great Lakes Chemical Div.
Stull Chemical Co.

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Century Engineering Corp.
Contree Sales
Cushman Motors
Deere & Co.
The J. J. Dill Co.
Red Ewald, Inc.
Friend Manufacturing Corp.
Gravely Corp.
Great Lakes Chemical Div.
Hahn, Inc.
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International Harvester Co.
Larson Machine, Inc.
Master Sprayers, Inc.
F. E. Myers & Bro. Co.
Papec Machine Co.
Root-Lowell Corp.
Walsh Manufacturing Co.
Waymark

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Century Engineering Corp.
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The J. J. Dill Co.
Red Ewald, Inc.
Friend Mfg. Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
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Lawn Medic, Inc.
F. E. Myers & Bro. Co.
Root-Lowell Corp.
Solo Motors, Inc.

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John Blue Co., Inc.
R. H. Bogle Co.
Bowie Industries, Inc.
The Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering Corp.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
Contree Sales, Inc.
Cushman Motors
Deere & Co.
The J. J. Dill Co.
Edwards Manufacturing Co.
Red Ewald, Inc.
Fimco, Inc.
Friend Manufacturing Corp.
Gravely Corp.
Great Lakes Chemical Div.
The Guildsman Company
H. D. Hudson Mfg. Co.
Hydro Turf
Hydroponic Chemical Co.
Larson Machine, Inc.
Lawn Medic, Inc.
Lockwood Corp.
Mallinckrodt Chemical Works
Marlow Pumps Div.
Master Sprayers, Inc.
F. E. Myers & Bro. Co.
Public Health Equip. & Supply Co.
Robco, Inc.
Root-Lowell Corp.
Smithco, Inc.
Solo Motors, Inc.
Southern Mill Creek Prod. Co., Inc.
Stull Chemical Co.
Universal Div. of Leigh Prod., Inc.
The Vandermolen Co.
Walsh Mfg. Co.
Waymark
Wayne Engineering Corp.
West Chemical Products, Inc.
Winru Chemical & Sales Co.

SPRAYERS, COMPRESSED AIR

John Bean Div., FMC Corp.
R. E. Chapin Mfg. Works, Inc.
Curtis-Dyna Products Corp.
The J. J. Dill Co.
The C. B. Dolge Co.
Red Ewald, Inc.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
Larson Machine, Inc.
Parco Div., National Foam
Public Health Equip. & Supply Co.
Root-Lowell Corp.
West Chemical Products, Inc.
Winru Chemical & Sales Co.

SPRAYERS, HAND

Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Broyhill Co.
Buffalo Turbine Ag. Equip. Co.
Century Engineering
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
Contree Sales, Inc.
The J. J. Dill Co.
Deere & Co.
The C. B. Dolge Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Mars Industries, Inc.
Melnor Industries, Inc.
Oakes Mfg. Co., FMC Corp.
Parco Div., National Foam
Root-Lowell Corp.
Solo Motors, Inc.
Tradewinds, Inc.
Universal Div. of Leigh Prod., Inc.
The Vandemolen Co.
Walsh Manufacturing Co.
West Chemical Products, Inc.

SPRAYERS, HOSE END

John Bean Div., FMC Corp.
Borden Chem., Smith-Douglass Div.
Broyhill Co.
Century Engineering Corp.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
Hayes Spray Gun Co.
H. D. Hudson Mfg. Co.
Hydroponic Chemical Co., Inc.
Larson Machine, Inc.
Master Sprayers, Inc.
Melnor Industries, Inc.
Universal Div. of Leigh Prod., Inc.
Walsh Mfg. Co.
Wayne Engineering Corp.

SPRAYERS, KNAPSACK

Bartlett Mfg. Co.
John Bean Div., FMC Corp.
Buffalo Turbine Ag. Equip. Co.
Champion Sprayer Co.
R. E. Chapin Mfg. Works, Inc.
The J. J. Dill Co.
C. B. Dolge Co.
Friend Mfg. Co.
Great Lakes Chemical Div.
H. D. Hudson Mfg. Co.
Parco Products Co.
Public Health Equip. & Supply Co.
Robco, Inc.
Root-Lowell Corp.
Solo Motors, Inc.
Stihl American, Inc.
Tradewinds, Inc.
The Vanderomlen Co.

SPREADERS, DISC-TYPE

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Great Lakes Chemical Div.
Larson Machine, Inc.
The Vandermolen Co.
Waymark

SPREADERS, HOPPER-TYPE

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John Blue Co.
Champion Sprayer Co.
Cushman, Outboard Marine Corp.
Deere & Co.
The J. J. Dill Co.
Ford Tractor Operations, North America
Gandy Co.
Gravely Corp.
Great Lakes Chemical Div.
Herd Seeder Co. Inc.
Highway Equipment Co.
International Harvester Co.
F. D. Kees Mfg. Co.
Larson Machine, Inc.
Lely Corp.
O. M. Scott & Sons
Simplex Mfg. Co.
TCI, Inc.
The Vandermolen Co.
Willmar Mfg. Co.

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Bermuda King Co.
Bowie Machine Works
James-Way Equipment Co.
Thompson Equipment Co.
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Gravely
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Gravely
International Harvester Co.
Massey?Ferguson, Inc.
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Bolens, Div of FMC Corporation
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Tradewinds, Inc.
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Slope Tractor, Inc.
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Waldcn, Inc.

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Ford Tractor Operations,
North America
International Harvester Co.
Waldon, Inc.

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Allis-Chalmers
Deere & Co.
International Harvester Co.

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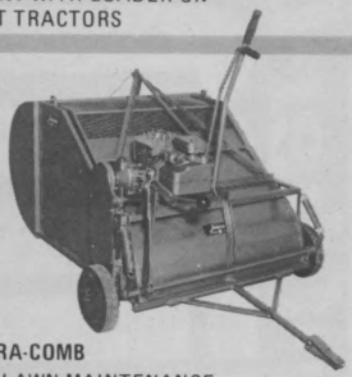

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Ideal Crane Div.
International Harvester Co.
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Ditch Witch Trenchers
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K-D Mfg. Co.
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Melnor Industries, Inc.
Orline Products Div.
H. K. Porter, Inc.
Rowco Mfg. Co., Inc.
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Stihl American, Inc.
Tallman Equip. Co. Inc.
Village Blacksmith
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International Harvester Co.
Jacobsen Mfg. Co.
Sweepster, Inc.
West Point Products Corp.

VACUUMS

Air Rake Manufacturing Corp.
Allis-Chalmers Mfg. Co.
Ariens Co.
Billy Goat Industries, Inc.
The Black & Decker Mfg. Co.
Deere & Co.
E Z Rake, Inc.
Heath International, Inc.
Lindel Ind., Div. Lindell Pattern Works
Parker Sweeper Co.
Simplicity Mfg. Co., Inc.
Turf Vac Corp.

VALVES (See Irrigation Valves)

Hypro Division, Lear Siegler, Inc.
Inject-O-Meter Mfg. Co.

VERTICAL SLITTERS, TURF

Rental Equipment Mfg. Co.
Ryan Equipment Co.

WASHERS, HIGH PRESSURE

Century Engineering Corp.
Fimco, Inc.
Master Sprayers
Walsh Mfg. Co.
Wayne Engineering Corp.

WEED BARRIER

Sea Guard, Inc.

WELDERS

American Lincoln Corp.

WINCH (HOIST)

Fairmont Hydraulics
Hoffco, Inc.
Ideal Crane Div.
International Harvester Co.

SERVICES

Asplundh Tree Expert Co.
Davey Tree Expert Co.
Golf Course Builders of America
Golf Course Superintendents Assoc. of America
3M Company

ALPHABETICAL LISTING OF SUPPLIERS

WEEDS TREES and TURF Advertisers Listed in Boldface Type

A

Abbott Laboratories, North Chicago, Ill. 60664
Dipel, bacillus thuringiensis biological insecticide

Ace Pump Corp., 1650 Channel Ave., Memphis, Tenn.
Pumps

Ackley Manufacturing Co., 13770 S.E. Ambler Rd., Clackamas, Oregon 97015
Tree pruner, hydraulic driven
Circle saw, hydraulic driven
Pole chain saw, hydraulic driven
Pistol grip chain saw, hydraulic driven
Circle saw, pneumatic driven

Acme Products, 1201 Kalamazoo St., South Haven, Michigan 49090
Gas masks, respirators

J. & L. Adikes, Inc., 182-12 93rd Ave., Jamaica, New York 11423
Gro-Well® Insecticides, herbicides, fungicides (Liq., WP, and Gran.), fertilizers, grass seeds including Adelphi, NK-100 and NK-200

Adventure Line Mfg. Co., 3333 Main St., Parsons, Kansas 67357
Astro hook, crane and ladder combination
Power tailgate, 100 lbs. lift for pickups
Highworker, folding platform for tree trimming 9-18 ft.
Hoist, 750 lb. and 2,000 lb. capacity

Agrico Chemical Company, P.O. Box 3166, Tulsa, Oklahoma 74101
Country Club fertilizers and weed or insect control products for turfgrass and gardens

Agricultural Alumni Seed Improvement Association, Inc., P.O. Box 158, Romney, Ind. 47981
Sodco, Kentucky bluegrass seed

Agtronics Mfg. Co., P.O. Box 1248, Barstow, Calif. 92311
Soil moisture meter

Agway Inc., P.O. Box 1333, Syracuse, N.Y. 13201
Port A Bin, bulk handling of fertilizer at location
Fertilizer
Environmental protection chemicals, herbicides, insecticides, fungicides

Air-Lec Industries, Inc., Outdoor Products Div., 3306 Commercial Ave., Madison, Wis. 53714
Weed Cutter, aquatic, swath cut 3 ½ ft. wide, 3 ½ ft. deep, attaches to any boat, 15 ft. or longer

Air Rake Manufacturing Corporation, 5-7 Springfield St., Chicopee, Massachusetts 01014
"Yard Tiger," blowers, everything machines, vacuums
Compactorette, trash compactor

Alcoa Aluminum Company of America, Alcoa Building, Pittsburgh, Pa. 15219
Irrigation pipe

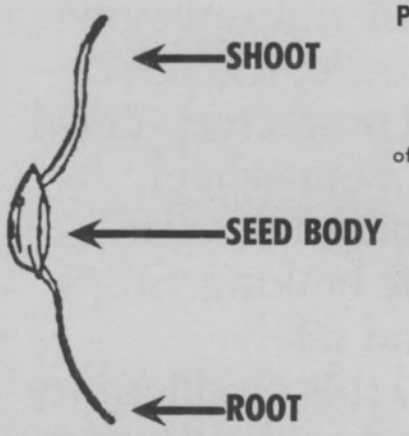
Allis-Chalmers Corp., Outdoor and Leisure Products, Box 512, Milwaukee, Wis. 53201
620 Tractor, 19 ½ hp
400 Series lawn and garden tractors, 10 and 16 hp
Homestreader lawn and garden tractors, 7 and 8 hp
Scamp riding mower, 5 and 8 hp
Walk-behind mowers, one 19 in. and three 21 in.
Rotary tiller, 3 ½, 5 and 8 hp worm gear drive; 5 hp chain drive
Tracker snow thrower, 4 and 8 hp
Chain and blade saws, Models 75 and 75A have a 14 in.

SOD GROWERS, CONTRACTORS, SUPPLIERS
PLANT MANAGERS, ADMINISTRATORS

What We've Been Waiting For Is Here! — An Innovation That Strikes a Giant Breakthrough in Seed Technology.

LAWN MEDIC

PRE-GERMINATED GRASS SEEDING



sample of millions of Germinated Plantlets

Lawn Medic's process economically produces plantlets, makes for easy handling, storage and application.

Your gain by using Germinated Seed.

A. 1,500 - 2,000% less water when germinating grass seed.
B. Weather and Seasons no longer critically affects planting time.
C. Quick cover on slopes, hard to establish areas.
D. Greater use of superior varieties, (normally taking longer to establish and gain full coverage.)
E. No excess seeding rates, all grasses come up as specified by GERM TESTS.

Plantlets come in bags to cover a given area. Specialized mixes or straight varieties are pre-germinated.

SELECTED VARIETIES, TIME FOR EMERGENCE* through soil surface after planting.

Bermudagrass — 3 days	Prato, Baron — 5 days
Merion Blue — 8 days	Bentgrasses — 3 days
Newport Ken. — 5 days	Ken. 31, Rye — 4 days

* Certain variety mixes will emerge in 1 - 2 days.
PRE-GERMINATED GRASS PLANTLETS U.S. Patent Pending.

For more details, prices, write **Donald W. Burton, Pres., Lawn Medic Inc.**
1024 Sibley Tower, Rochester, New York 14604 (716-494-1462

LAWN MEDIC PRODUCTS & SERVICES: SOIL NUTRIENT FORTIFIER Fertilizers, Commercial Seed & Pesticides, YARD-CREW mowing and pickup service, PUTTER'S GREEN Homeowner lawn service, PRE-GERM SEEDING.

Interna

You can't do this with any other compact backhoe-loader.

Go from loading to digging in the time it takes to change seats.

Because this backhoe mounts on the back.

Sure, other compact loaders have backhoe attachments. But you have to disconnect the backhoe if you want to use the loader again.

With our compact, you can have your trench and backfill, too.

Dig... down to eight feet. Lift capacity: 1000 lbs. with the boom fully extended. A 15.5 GPM hydraulic pump delivers a pryout force of over 10,000 lbs.

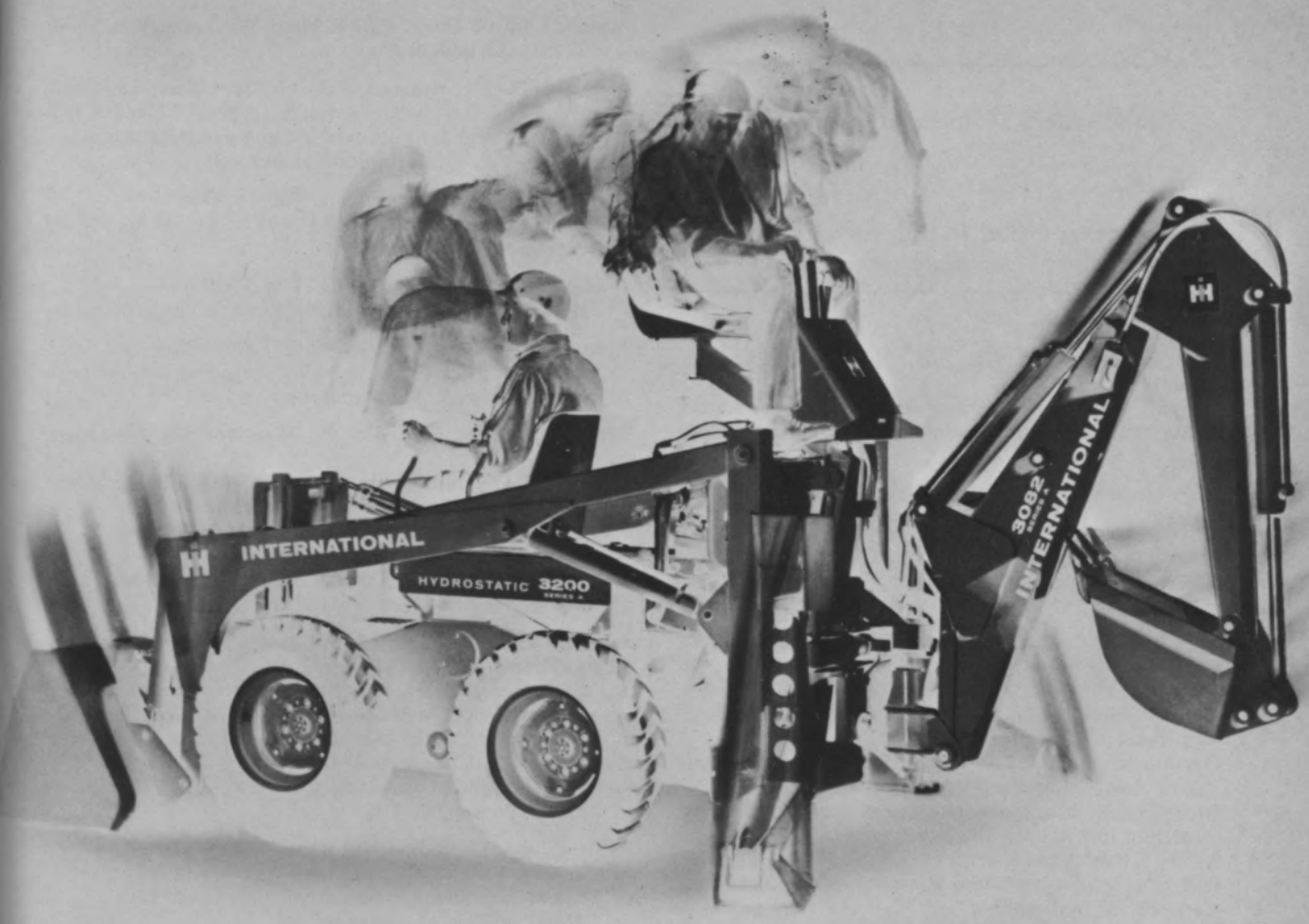
Load... 1500 lbs. of material, and dump it with a 7½-ft. clearance. An automatic power amplifier puts extra muscle into the loading action.

Travel... with sure-footed confidence. Powered by a husky 30-bhp engine. Hydrostatic transmission — at full throttle, you select any speed from creep-crawl to 8 mph. Four-wheel drive. Oscillating axles. Automatic braking. Stops quickly and safely.

And all this productivity comes in a backhoe-loader package that's only 6'6" high by 4'10" wide.

We keep getting better at our business to get more of your business.
And keep it.

tional®



The 3200A compact backhoe-loader.

Industrial Equipment
International Harvester, Chicago, Ill. 60611

bar; Models 85, 95, 195 and 295 have a 17 in. bar

Amchem Products, Inc., Ambler, Pa.
Tre-Hold®, spray paint
Amitrol® amitrole, herbicide, postemergent
Aqua-Kleen®, herbicide, granular and spray
Brominal® bromoxynil, herbicide, bareground
Butyrac® 175, herbicide, postemergence
Emulsamine®, herbicide, brush
Envert® DT, invert emulsion of 2,4-D and 2,4,5-T
Directa-Spray®, sprayer, low-drift

American Arborist Supplies, Concord Industrial Park, Concordville, Pa. 19331
Arborist supplies

American Bioculture Inc., Bio-Turf Division, P.O. Box 424, Glen Head, L.I., New York 11545
Bio-Turf, soil conditioner, bio-chemical 100% organic flocculating agent

American Cyanamid Co., Agricultural Div., P.O. Box 400, Princeton, N.J.
Abate® 4E, insecticide, mosquito larvae
Amino Triazole Weed killer, herbicide, abatement
Cyanogas®, fumigant, rodenticide
Cygon®, insecticide
Malathion ULV concentrate, insecticide
Thimet® phorate, insecticide, liquid

Alphabetical Listing of Suppliers

WEEDS TREES AND TURF

Advertisers Listed In Boldface Type

American Excelsior Company, P.O. Box 5067, Arlington, Texas, 76011
Curlex™ Blanket, permanent vegetative cover, seeded areas, retains moisture, maintain temperature, provide shade

American-Lincoln Corp., 518 S. St. Clair, Toledo, Ohio
Welders

American Oil Co., 910 S. Michigan Ave., Chicago, Ill. 60680
2,4-D, herbicide, postemergence
Dormant oil

American Optical Corporation, Safety Products Division, 14 Mechanic St., Southbridge, Mass. 01550
Sure-Guard®, Red Devil®, Agri-Spray™, Agri-Dust™, Paint-N-Dust™, respirators for protection against dust, mist, funes, vapors, gases, chemical
Duraguard®, Safety glasses and goggles, eye protection against dust, flying objects, chemical splash
Hear-Guard®, hearing protectors, all types for hearing protection incl. muff type and ear plugs
A-Line™, hard hats and caps, plastic hats and caps
Protective clothing, rubberized, aluminimum, cloth, etc., materials for foul weather, etc.

American Sod Producers Assn., Box 231, College of Agriculture and Environmental Sciences, Rutgers University, New Brunswick, N.J. 08903
Sod

The Ansul Company, 1 Stanton St., Marinette, Wis. 54143
Ansar, herbicide, contact
Broadside, herbicide, contact
Phytar 560, herbicide, contact
Retard maleic hydrazide, growth retardant
Hypo-hatchet injector

Applied Biochemists, Inc., 5300 W. County Line Rd., Mequon, Wis. 53092
Cutrine®, algaecide for potable water reservoirs; farm, fish and fire ponds; lakes; fish hatcheries
Cutrine® Granular, algaecide for specific control of chara in potable water reservoirs; farm, fish and fire ponds; lakes; fish hatcheries
Swimtrine®, algaecide for swimming pools

Aqua-Dial, P.O. Box 1325, Newport Beach, Calif. 92663
Turf sprinklers
Automatic controllers
Automatic valves

Aquamarine Corporation, Box 616, Waukesha, Wisc. 53186
Aqua Trio, weed harvesting system
Sawfish, weed cutter and aquatic front loader
Hy Baller, hyacinth thrower
Hyacinth control station, hyacinth harvester

Aquanautics, Inc., 1246 Birchwood Dr., Sunnyvale, Calif. 94086
Weed rake, underwater
Air boat

Aquatic Controls Corp., 1203 E. Main, Waukesha, Wis. 53186
Weed rake, underwater

Aquatrols Corp. of America, P.O. Box 385, Delair, N.J. 08110
Aqua-Gro (technical), granular, Aqua-T, blended soil wetting agent for improved wetting and penetration
Stoma-Seal, anti-transpirant, reduce wilt

Arctic Mizer Manufacturers, Inc., Cudahy, Wis.
Vacuum-thatcher, pull-type, propelled by 3½ hp, 4 cycle engine, adjustable height

Ariens Co., 655 W. Ryan, Brillion, Wis. 54901
Rotary mower, riding type, 26-38 inches, 5 hp to 8 hp

Armor Metal Products, P.O. Box 822, Helena, Montana 59601
Anderson Rock Picker, specialty equipment used for rock removal in seed bed preparation

Arps Corporation, P.O. Box 95, New Holstein, Wisconsin 53061
Mini-blades, mini-rakes, rear-mounted, landscape blades and rakes for lawn and garden tractors
Stump-master, tractor mounted stump cutter
Arps backhoe, 3-point hitch industrial backhoe
Arps blades and rakes, tractor landscape blades and rakes
Trench devil, self-propelled trenchers, 6-24 hp

Asplundh Chipper Co., Division of Asplundh Tree Expert Co., 50 East Hamilton St., Chalfont, Pa.
Chipper, high speed, tapered blade
Forestry truck, Models L-40, 42, 45, 50; dump body, 12-inch chipper, aerial bucket
Sprout Gard, tree dressing inhibitor
Weed and grass killer, herbicide, bareground
Brush hooks

Atlas Chemical Industries, Division of ICI America, Wilmington, Delaware
Atlox®, emulsifier, non-ionic and anionic-nonionic
Atmus, surfactant, non-ionic
Atmul, surfactant, non-ionic

Avco Ezee Flow, 1st and Sycamore, Coldwater, Ohio 45828
Spreaders, gravity drop, broadcast, fertilizer
Seeders, broadcast
Mower, rotary
Applicators, granular insecticide-herbicide

2460A Stump Cutter...Big Machine with Big Reach

Removes large stumps in minutes... without repositioning

Vermeer's big 65 hp 2460A Stump Cutter means fast, easy, safe stump removal . . . it means you save thousands of dollars annually. Its high-speed cutting wheel moves in, out, across to chew out big stumps in minutes . . . without repositioning the tow vehicle. And "The Diggin' Dutchman's" new swing tongue hydraulically telescopes and swings, left and right,to finish off largest stumps in hard to reach spots. Let us sink our teeth into your stump problems. Write "The Diggin' Dutchman" for information and complete literature.

Another Stump Cutter From . . .

THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION
7212 W. Washington • Pella, Iowa 50219

. . . and it's easy to maneuver! Digs 24" below the ground, up to 72" wide. Straight across cutting movement gives strict control next to streets, curbs, sidewalks, etc. Low silhouette design lets you operate easily in tight spots, under low objects.

For More Details Circle (121) on Reply Card

B

B.A.G. Corporation, 9443 Sherwood Glen, Dallas, Texas 75228
Bags, bucket shaped, PVC coated polyester fabric

Baker Equipment Leasing Corp., Box 25609, Richmond, Va., 23260
Aerial towers, mobile equipment
Derricks, mobile equipment

Bartlett Mfg. Co., 3024 East Grand Blvd., Detroit, Michigan 48202
Saws, tree, combination pruner and saw
Saw, pruning, hand
Saw sheaths
Tree Bracing materials
Bartlett tree paint

Bar-Way Mfg. Co., P.O. Box 640, Stamford, Conn. 06904
Spray guns, long range, worm-gear control on end of barrel end

BASF Wyandotte Corporation, 1609 Biddle Ave., Wyandotte, Michigan 48192
Turface, soil amendment

John Bean, Division of FMC Corporation, 1305 S. Cedar St., Lansing, Michigan
Sprayers, hydraulic, all purpose, pull type, stainless steel tanks
Mistblowers, truck mounted
Mistblowers, nozzle parts
Flamethrowers, (sprayers)

Beck Manufacturing Co., P.O. Box 752, Auburn, Alabama 36830
Lawn-O-Matic, turf grass planter
Sod-O-Matic, sod harverster and laying system
Sod Cutter, cuts 3 strips at the same time

Beeco Products Co., Fort Washington, Pa.
Beeco-Mist, spray sleeve, model 275 spray head

Bell Helicopter Co., P.O. Box 482, Fort Worth, Texas
Helicopters

Bemis Company, Inc., 800 North Star Center, Box 215, Minneapolis, Minnesota 55402
Bags, tree balling
Bags and liners, plastic construction
Erosion control materials
Bags, litter
Bags, grass catcher
Twine, tying and wrapping

Bermuda King Co., Rt. 1, Box 33, Okarche, Okla. 73762
Bermuda grasses, sprig planters
Bermuda grasses, sprig harvesters

Beseler Equipment Co., 5417 Oaklawn Ave. S., Minneapolis, Minnesota 55424
Tree slings
Mistblowers, truck mounted
Tree movers

Bete Fog Nozzle, Inc., Greenfield, Mass.
Stubbies, nozzles, mini-sized, three cone angles, flow rates from 3 to 300 gpm

Big "J" Products, Route 1, Hanna, Indiana 46340
Sod harvestor, dual palleted

Billy Goat Industries, Inc., P.O. Box 229, Grandview, Mo. 64030
Vacuums, indoor or outdoor, 3½ hp to 8 hp; self-propelled and push models; gasoline, propane, electric or battery driven

The Black & Decker Mfg. Co., 701 E. Joppa Rd., Towson, Md. 21204
Drills
Saws, circular, table, radial arm, handheld
Trimmers, hedge, grass

John Blue Co., P.O. Box 1607, Huntsville, Alabama 35807
Spreaders, fertilizers (liquid, dry, bulk)
Tanks, spray and fertilizer
Sprayers, mounted and pull type, rights-of-way

BMB Co., Inc., North Vermont at 9th, Holton, Kansas 66436
BMB Suburban 48, mower, rotary, 48" trail type with 8 hp engine, offset left or right 24", wheels side or rear mounted

The R. H. Bogle Company, Oronoco & Lee Streets, Alexandria, Virginia 22313
Bo-Rid, herbicide (bareground)
Aceto Diuron, herbicide (bareground)
Aceto Dalapon, herbicide (bareground)
Bromacil herbicides, herbicide (bareground)

Karmex® (Diuron), herbicide (bareground)
Krovar®, herbicide (bareground)
Hyvar® X (Bromacil), herbicide (bareground)
Princep® (Simazine(, herbicide (bareground)
Pramitol® (Prometone), herbicide (bareground)
Atratol® 8P, 80W, herbicide (bareground)
2,4-D, 2,4,5-T, herbicide (bareground)
Ammate®, herbicide (bareground)

Bolens, Division of FMC Corporation, 215 S. Park St., Port Washington, Wisconsin 53074
Bolens Husky, tractor, 18 hp, hitches for 35 separate attachments, hydro static transmission, collar-locking PTO system, two cylinder engine

Bowie Industries, Inc., P.O. Box 931, Bowie, Texas 76230
Hydro-Mulcher, used in sprigging, seeding, mulching, fertilizing, insect control and weed control

Bridgeport Implement Works, Inc., 60 Rachel Drive, Stratford, Conn. 06497
Pixtone, mechanical stonepicker, trailer unit for use with tractor to remove surface stone before seeding

Briggs & Stratton Corp., P. O. Box 702, Milwaukee, Wisconsin 53502
Engines, 4 cycle, single cylinder, gasoline

Brighton By-Products Co., Inc., P.O. Box 23, New Brighton, Pa. 15066
Experimental Irrigation tubing, ooze system, porous plastic

Brillion Iron Works, Inc., 200 Park Ave., Brillion, Wis. 54110
Turf-Maker, grass seeder, crushes, seeds and rolls in one pass
Landscape seeders, 3 sizes, 5 ft. 4 inch, and 8 ft. pickup models and 8 ft. and 10 ft. drawbar models, hopper type
Roller, single and multiple gang 9 ft. to 20 ft. width
Mow-Safe MS-720, mower, 72 and 88 inch cut, PTO driven, cutting height is ¾ inch to 6 inches
Terra-Scaper, landscape rake; rakes, windrows, backfills, spreads, grades, levels, finishes seedbed; 5 angle position, 6 ft. and 8 ft. width

Brouwer Turf Equipment Ltd., RR 1, Keswick, Ontario, Canada
Sod Harvester, cut, roll and load up to 1300 sq. yds. of sod per hour in one operation

The Broyhill Company, North Market Square, Dakota City, Nebr. 68731
Sprayer, piston pump with mechanical agitation and centrifugal or roller pump with bypass agitation, 8-1000 gallons

wambo A NEW STANDARD IN POWER EQUIPMENT

- Knapsack blowers, Mistblowers & dusters
- 28″ & 36″ Lawnmowers
- 3 HP & 4.5 HP 2 cycle wheeled blowers
- Multi-Worker brush cutter, weed breaker & hedge trimmer

Powered exclusively by Rockwell JLO engines (except Lawnmowers)

CALL OR WRITE FOR YOUR BROCHURE & MONEY SAVING INFORMATION
SOLE AGENT
POWER EQUIPMENT IMPORTS
580 MACON PLACE UNIONDALE, NEW YORK 11553
(516) 489-3582

Buckner Sprinkler Co., P.O. Box 232, Fresno, California 93708
Buckner sprinklers, irrigation equipment
Febco valves, backflow prevention
Binar controllers, auto., manual controllers

Buffalo Turbine Agricultural Equipment Co., Inc., Industrial Place, Gowenda, N.Y. 14070
Mity Mite, sprayer-duster, backpack
Sonic ULV sprayer, for mosquito and fly control
Turbine D, duster
Buffalo Turbine, sprayer-duster, multipurpose unit, Models BS, C, FS, J3BS, FST-3, K, KULV

Bunton Co., 4303 Poplar Level Rd., Louisville, Ky. 40213
Lawn-Turf Equipment, mowers, rotary

E. F Burlingham & Sons, P.O. Box 217, Forest Grove, Oregon 97116
Bonnieblue™, bluegrass seed

C

C. & I. Manufacturing, Inc., Warsaw, Indiana
De-Ender, tool to remove heads of barrels and drums

Samuel Cabot, Inc., One Union St., Boston, Mass. 02108
Tree healing paint, heals tree wounds, stops rot, prevents sap evaporation

E. L. Caldwell & Sons, Inc., 3204 Agnes St., P.O. Box 9316, Corpus Christi, Texas 78408
15' Interstate, rotary mower
Challenger, rotary mower, 5 ft. and 6 ft.
Contour Flail, flail mower
Shark 90', flail mower
Barracuda, flail mower
Brush Beaver, rotary mower, 5 ft. and 6 ft.

Cal-Turf, Inc., 5417 Santa Clara Ave., Camarillo, Calif. 93010
Cal-Turf, sod and stolons

CareTree Systems, Box 347, 7030 Huntley Rd., Worthington, Ohio 43085
Transplanter, tree transplanter mounted on tractor or 4 wheel loader

Century Engineering Corp., 221 4th Ave. S.E., Cedar Rapids, Iowa 52401
Sprayers, mist blower, boom, handgun, lawn and garden, tanks
High pressure washer, portable

The Champion Company, 400 Harrison St., Springfield, Ohio 45501
Doo-All, trailers (roll-dump, flat bed and wagon bed)

R. E. Chapin Mfg. Works, Inc., 29 Liberty St., Batavia, N.Y. 14020
Sprayer, compressed air, slide, or wheel mounted
Duster, plunger or rotary

Charles Machine Works, Inc., P.O. Box 66, Perry, Oklahoma 73077
Ditch Witch, trencher
Ditch Witch, vibratory plows
Ditch Witch, backhoe (trencher mounted)
Roto Witch, boring unit (hydraulic)
Ditch Witch, earth saw

Chemagro Division of Baychem Corp., P.O. Box 4913, Hawthorn Rd., Kansas City, Missouri 64120
Dyrene®, fungicide
Baygon® 70% WP, insecticide
Dasanit® 15G and SC, nematicide
Dylox® 80% WP and LS, insecticide
Guthion® WP and SC, insecticide
Dexon®, fungicide
Baytex®, insecticide

Di-Syston®, insecticide
Meta-Systox®-R, insecticide
Entex®, insecticide

Chevron Chemical Co., 200 Bush St., San Francisco, Calif. 94120
Monitor 4 dimethyl phosphoramidothioate, insecticide
Dibrom 8 EC naled, insecticide
Diquat diquat dibromide, herbicide, aquatic
Paraquat CL paraquat dichloride, herbicide, contact
Difolatan 4 flowable (difolatan), fungicide, broad spectrum
Isotox, insecticide
Orthocide (captan products), fungicide, broad spectrum
Volik Supreme (oil), insecticide, miticide

Ciba-Geigy Corporation, Agricultural Division, Saw Mill River Road, Ardsley, N.Y. 10502
AAtrex® 80W, atrazine, herbicide, turf for sod and noncropland, pre- and postemergence
Atratol® 80W, atrazine, herbicide, nonslective, bareground
Atratol® 8P, atrazine and sodium chlorate and sodium metaborate, herbicide, nonselective, bareground
Princep® 80W, simazine, herbicide, selective and nonselective depending on rates
Princep® 4G, simazine, herbicide, granular
Pramitol® 25E, prometone, herbicide, bareground, liquid emulsion
Pramitol® 5PS, prometone and simazine, herbicide, bareground, pelleted
Sarolex®, Diazinon, namaticide, insecticide
Diazinon® 80W, diazinon, insecticide, also available in dust, emulsifiable concentrate, granular, oil solution, emulsifiable solution formulations

Clark Equipment Co., Buchanan Plant, Buchanan, Michigan 49107
Forklifts

W. A. Cleary Corp., P.O. Box 749, New Brunswick, New Jersey 08903
Cleary's 3336™ Systemic Turf Fungicide
Bromosan™ Systemic Turf Fungicide
PMAS 10%, fungicide and herbicide
Caddy, fungicide
Spotrete, fungicide
Cad-Trete, fungicide
MCPP and 2,4-D, herbicide
Super methar, herbicide
Tru-Green, liquid chelating agent
Greenzit (turf and tree), natural colorant

Colloidal Products Croporation, P.O. Box 621, Petaluma, Calif. 94952
Bio-Film®, spreader, sticker
Buffer-X®, spreader, activator, buffer
Compex®, compatibility agent for liquid fertilizers
Fomex®, foaming spray adjuvant and spreaderactivator for herbicide sprays
Multi-Film L, water dispersible spreader-activator
Multi-Film X-77, non-ionic spreader-activator
Nu-Trex, spreader-nutrient-buffer
Regulaid, spreader-activator for growth regulator sprays
Solvaid, spreader-stabilizer for oil sprays
Tronic, spreader-activator

Contree Sales, Inc., P.O. Box 129, Columbus, Wis. 53925
Rice Paddy Daddy, sprayer
Boom Dye-Marker, marks areas treated
Wat Sol Oil, lubrication, preservation, storage oil
Auger, Model S.S., 4 inch, 12 volt for materials handling

Cuts twice as fast as most lawn tractors, hugs the ground for hillside safety

NATIONAL 68-inch Triplex

Mows a 68-inch swath at speeds up to 4 miles per hour, a half acre in 15 minutes.

It's a turf-professional type mower, with three powered, free-floating reels that follow ground contour. It shears grass cleanly; doesn't leave unsightly "tip burn" as rotaries often do.

Reduces trimming time because the reels reach out over curbs, up to obstructions and in other hard-to-cut places.

Built to last—with Timken bearings, automotive-type transmission and a lip on the cutter bar to take years of wear.

Do your lawn job in about half the time and do it better with the all-mower mower, the National Triplex.

Other models from 25 to 84-inch cut.

Write for information.

NATIONAL MOWER COMPANY
660 Raymond Avenue, St. Paul, Minnesota 55114
Phone: 612/646-4079

Nitrojector, for injecting chemicals and fertilizer into irrigation systems
Multi-knife, soil injection for application

Conwed Corporation, 2200 Highcrest Road, St. Paul, Minnesota 55113
Hydro Mulch Fibers, turf establishment
Turf Establishment Blanket, turf establishment
Erosion Control Netting, erosion control
Turf Protection Blanket, turf protection

Creative Sales, Inc., 200 South Main, Fremont, Nebraska 68025
Medicaps® tree systems, systemic trunk implants (trees)

Curtis Dyna-Products, P.O. Box 297, Westfield, Indiana 46074
Back Pack BP-145, dispensing equipment
Dyna-Fog, dispensing equipment

Cushman Outboard Marine Corporation, P.O. Box 82409, Lincoln, Nebraska 68501
Turf-Truckster, turf vehicles, top dresser, spiker, sprayer, cyclone spreader, personnel and light burden hauling

D

Ross Daniels, Inc., 1720 Fuller Road, West Des Moines, Iowa 50265
Root Feeders, 3 per kit; ganged together with two 6 ft. lengths of hose and fittings. Kit includes 240 high nitrogen cartridges

Davey Tree Expert Co., Kent, Ohio 44240
Tree nursery, 150 varieties of shade and ornamentals
Tree service, nationwide and Canada representation

Dedoes Industries, Berkley, Michigan
Aerator

Deere & Co., John Deere Equipment, John Deere Administrative Center, John Deere Rd., Moline, Ill. 61265
Tractors, a model and horsepower rating in every class from smallest yard to industrial uses
Mowers, push, riding, self-propelled, tractor
Skid-Steer loader, two models, 70 and 170, 25 and 37 hp
Grounds maintenance tractor, Model 820, 31 hp, belly mounted mower, cuts 6 ft. swath
Tools, 237 different tools for shop, work and home
Roto tillers
Lawn sweepers
Blades
Trailers
Snow throwers
Chain saws

Why Own A HYDRO-TURF SPRAYER

VERSATILITY

- Grows Grass 5 Days. Full Turf 25 Days
- Seed, Fertilize Up To 5 Acres in 30 Minutes
- Hydro-Mulch & Sprigs
- Spray Trees, Turf, Insects
- Portable Irrigation and Pumping System
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DESA Industries, Inc., 25000 S. Western Ave., Park Forest, Illinois 60466
Remington Chain Saws, gasoline, electric and pneumatic driven

Diamond Shamrock Chemical Co., 300 Union Commerce Bldg., Cleveland, Ohio 44115
Dacamine® herbicide
Dacthal® herbicide
DSMA herbicide
Daconate® herbicide
2,4-D herbicide
2,4,5-T herbicide
Silvex® 2,4-D, herbicide
2,4-D granules, herbicide
Aqua 2,4-D granules, herbicide
Daconil 2787®, fungicide
Dacagin® spray additive, drift retardant

Dico Co., Inc., Material Handling Division, P.O. Box 429, York, Pa. 17405
Unloaders, hydraulic boom type

J. J. Dill Co., P.O. Box 788, Kalamazoo, Mich. 49005
D-Lete, herbicide, bareground, liquid and granular
Kleen Turf, herbicide, selective, broad-leaved plants

The C. B. Dolge Company, 11 Ferry Lane, West, Westport, Connecticut 06880
Tote-Weed Killer, herbicide, bareground
Penetrate, soil conditioner
Lake Dye, non toxic dye for water
Selexto, insecticide, turf
EWT Plus, herbicide, elective MCPP plus 240
Boost, solvent detergent cleaner
Lapping Soap, soap for use in lapping compound

Dow Chemical USA, P.O. Box 1706, Midland, Michigan 48640
Formula 40, herbicide
DMA-40, herbicide
Dowpon®, herbicide, non-selective
Dowfume® MC-2, fumigant
Dursban® 2E, insecticide
Fumazone® 86, fumigant
Zectran® 2E, insecticide
Dow General Weed Killer, herbicide
Esteron®, herbicide
Kuron®, herbicide
Premerge®, herbicide

DriAll, Inc., Box 309, Attica, Indiana 47918
Levler, soil leveler
Scarifer, landscape leveler
Air Curtain Destructor, brush and tree burner

E. I. Du Pont de Nemours & Co., Inc., 1007 Market St., Wilmington, Del. 19898
Hyvar® X bromacil weed killer, Hyvar® X-L, (liquid) bareground
Krovar® I, weed killer, bareground
Karmex® diuron weed killer, bareground, preemergence
Ammate® X weed and brush killer, contact
Tersan® LSR, turf fungicide
Tersan® 1991, turf fungicide
Tersan® SP, turf fungicide

E

Economy Tractor, 1005 Anoka Ave., Waukesha, Wis. 53186
Tractor, all gear drive
Mower, rotary, mounted under tractor, 60 inches

Edwards Manufacturing Co., Edwards Ranch, Route 4, Ponca City, Oklahoma 74601
Sprayer, power driven, self-contained, operate with boom or spray gun
Tank, 400 gallon, nurse tank for serial applicators

Elanco Products Company, P.O. Box 1750, Indianapolis, Indiana 46206
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Crabicide®, herbicide, preemergent
Tri-Cide®, insecticide, systemic
Balan® benefin, herbicide, preemergent
Treflan® trifluralin, herbicide, preemergent
Dymid® diphenamid, herbicide, preemergent, liquid and granular
Parnon®, fungicide
Pipron®, fungicide, liquid concentrate

Erickson Corporation, 211 St. Anthony Blvd., N.E., Minneapolis, Minn. 55418
Erickson, hydrostatic drive compact front end loader

Eversman Mfg. Company, Curtis at Fifth St., Denver, Colorado 80204
Eversman, land leveler

Excel Industries, Inc., Box 385, Hesston, Kansas 67602
Mowers, flail, rotary

E-Z Rake, Inc., 1001 S. Ransdell Rd., P.O. Box 506, Lebanon, Indiana 46052
Thatcher, spring tine dethatching machine, walk behind and tractor mounted
Power Vacuum Sweeper, attaches to tractor or riding mower, equipped with center mount, rotary mower

F

Faesy & Besthoff, Inc., 143 River Road, Edgewater, N. J. 07020
F & B Lawn & Turf Fungicide, granular, combo of Dyrene and maneb
F & B Aspon Chlordane, insecticide, broad spectrum granular and sprayable
F & B Eptam 2.3, herbicide, granular, preemergent
F & B Sevin carbaryl, insecticide, granular, flowable, dust and wettable powder for mulations

Fairmont Hydraulics, 415 North Main Street, Fairmont, Minnesota 56031
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Fanno Saw Works, P.O. Box 628, Chico, Calif. 95926
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Farris Chemical Company, 7213 Kingston Pike, P.O. Box 10126, Knoxville, Tennessee 37919
Chemical Feed Pumps

Ferguson Fumigants, Inc., 93 Ford Lane, Hazelwood, Missouri 63042
Zytox Gelled Soil Fumigant, gelled methylbromide

Ferry-Morse Seed Co., P.O. Box 100, 111 Ferry-Morse Way, Mountain View, California 94040
Turf and Lawn Seeds

Ferti-Feeder, 3973 East Lay, Des Moines, Iowa 50306
Ferti-Feeder, tree fertilizer injector through augers
Ferti-Feed, fertilizer
Ferti-Sulfur, fertilizer
Ferti-Iron, fertilizer
Ferti-Feeder Auger

Fimco, Inc., 101 So. Court, Sioux City, Iowa 51101
Dobbins, power sprayers 10 to 110 gal. tank size with centrifugal or piston pumps, gas engines

Finn Equipment Company, 2525 Duck Creek Rd., Cincinnati, Ohio 45028
Titan Hydroseeder, hydraulic
Super Hydroseeder, seeding equipment
Bantam Hydroseeder, seeding equipment
Mulch Spreader, equipment for mechanical spreading of vegetative mulch
Bantam Mulch Spreader, equipment for mechanical spreading of vegetative mulch

Floridin Company, 3 Penn Center, Pittsburgh, Pa. 15235
Florex attapulgite, granular clay carrier
Diluex attapulgite, powdered clay carrier
Min-U-Gel 200 attapulgite, suspending clay for fluid fertilizer

Flymo Division, Keltec, Inc., P.O. Box 939, Elkhart, Ind. 46514
Flymo®, air-cushion rotary mower

Ford Tractor Operations, North America, 2500 E. Maple, Troy, Michigan 48084
Low center of gravity tractors, 34-57 hp
All purpose tractors, 34-131 hp
Industrial tractors, 41-70 hp
Lawn and garden tractors, 5-14 hp
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Chain saws
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Traffic Paint
Marking paint

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Friend Orchardkraft, alternators, power brushcutter
Friend Commander, chemical applicators, granular, chemical
Champion and Chapin, chemical applicators, dusters
Friend Orchardkraft, generators, hose, hydraulic and air powered tools
Friend Parkkraft, litter receptacles
Willson, dust masks
Friend, mistblowers, nozzle parts
Uniroyal, protective clothing
Friend Orchardkraft, pruners
Friend, pumps
Hannay, reels, hose
Willson, respirators, safety equipment
New Draulics, saws, chain
Seymour Smith, saws, manual
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Friend, spray booms, spray guns, spray nozzles, complete, disk whirls
Friend, spray pumps, sprayer, bifluid, boom
Friend Orchardkraft, sprayers, cart or wheelbarrow type, hand, knapsack
Friend, spray tanks, sprayers, hose end, complete power unit sprayers

Fuerst Brothers, Inc., P.O. Box 271, Rhinebeck, N.Y. 12572
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G

Gabriel Chemicals Ltd., 60 E. 42nd St., New York, N.Y. 10017
Gabriel Malathion, insecticide, liquid and WP
Gabriel Pyrethrum, insecticide, extracts and powders
Swingfog SN-10, insecticide fogger

Gandy Company, 528 Gandrud Road, Owatonna, Minnesota 55060
Turf Tender 24 & 42, stainless steel spreader and seeder
600 Series Spreader, 3-4-5-foot spreader and seeder
10 Series Spreader, 6-8-10-11-foot spreader and seeder
Line tender, soil sterilent applicator
Hort applicator, chemical applicator for tillage equipment
Gandy measuring wheel, land measuring wheel

Garber Seeders, Inc., St. Paris, Ohio
Seeders, hopper type

G & H Products, Inc., St. Paris, Ohio 43072
Uni-Lift, motorized all-position stand for riding mowers, lifts up to 80 inches, 1000 lb. loads, in less than 30 sec.

Gieringer Manufacturing Co., Inc., 6508 N. Sunny Point Road, Milwaukee, Wisconsin 53217
Sod-Gropper, sod roller

Glendale Optical Co., Inc., 130 Crossways Park Dr., Woodbury, L.I., N.Y. 11797
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Goodall Division, 1405 Bunton Rd., Louisville, Kentucky 40213
Goodall, mower, rotary

PBI-Gordon Corporation, 300 South Third St., Kansas City, Kansas 66118
Trimec Fairway herbicide, herbicide, postemergence
Trimec Bentgrass herbicide, herbicide, postemergence
Perma-Kill Plus, herbicide

Granberg Industries, 201 Nevin Ave., Richmond, California 94801
Grind-R-Guide, freehand electric chain saw sharpener
File-N-Guide, chain saw sharpener
File-N-Joint, chain saw sharpener
Pokette, saw chain breaker
Break-N-Mend, saw chain breaker and rivet spinner
Clip-N-Trim, brush and hedge trimmer chain saw attachment
Alaskan Chain Saw Mill, lumber-making mill chain saw attachment

Grasslyn, Inc., 641 Pine Grove Rd., State College, Pa. 16801
Penngift crownvetch, erosion control plants
Grass seed

Gravely, One Gravely Lane, Clemmons, N.C. 27012
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Gravely lawn tractor, 8 hp with attachments
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Gravely 814, 14 hp riding tractor
Gravely 816, 16 hp riding tractor
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Great Lakes Chemical Corporation, P.O. Box 2200, West Lafayette, Indiana 47906
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Brom-O-Gas, soil fumigant
Soilbrom 40, fumigant
Soilbrom 85, fumigant
Chlor-O-Pic, insecticide fumigant
Terr-O-Cide 15, fumigant
Terr-O-Cide 30, fumigant
Terr-O-Cide 30-D, fumigant
Terr-O-Gel 67, fumigant

Greenlife Products Company, Inc., P.O. Box 72, West Point, Virginia 23181
Pine bark soil conditioner, soil amendment
Pine bark mulch, for weed retarding, moisture holding, weather protection and soil improvement
Pine bark Deco nuggets, decorative bark
Cow manure, fertilizer 2-1-2
Top soil, soil improvement
Peat humus, soil improvement

The Gregg Co., 1714 Bannard St., P.O. Box 149, Riverton, New jersey 08077
Nu-Type Green Lawn Spray, latex emulsion, grass colorant concentrate for dormant grass

Gulf Oil Company, Gulf Bldg., Pittsburgh, Pa.
Carbyne® barban, herbicide
Topcide®, herbicide

Grumman Aircraft Corp., S. Oyster Bay Rd., Bethpage, L.I., N.Y.
Aircraft, fixed wing

The Guildsman Company, Harrisburg, Pa.
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H

Hadfield Sod Roller Co., 6443 Sherwood, Oxford, Michigan 48051
Sod roller

Hahn, Inc., N. Garvin St., Evansville, Ind. 47717
Tournament Triplex, mower, reel, greens
Hahn Ransomes Versacut, mower, reel, power, fairways
Hahn Ransomes Mower, gang
Flexamatic, mower, reel, power, S-gang
Aeri-Boy, aerifier

W. L. Hamilton Co., Lenter St., Bangor, Michigan 49013
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Pressure relief valves
Spray nozzles

Harder Arborist Supply Co., Box 111, Hempstead, N.Y. 11550
Safety equipment
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Harwil Corporation, Santa Monica, California
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Hays Mfg. Div., Zurn Industries, Inc., 12th and Plum, Erie, Pa. 16512
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Marfaid, automatic solenoid valves
Safe-T-Lawn, irrigation sprinklers
Module-Pac, mobile home water service line connection, complete unit

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Heath International, Inc., Richmond, Michigan
Elphant-Vac®, vacuum

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Travelite tool box, pickup truck tool box

Hercules Incorporated, 910 Market St., Wilmington, Delaware 19899
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Powder Blue™, fertilizer, sprayable slow-release ureaform
Blue Chip®, fertilizer, slow-release ureaform for dry application
Azak®, herbicide, preemergence for crabgrass

Herd Seeder Company, Inc., 3600 East on U.S. 35 S.E., P.O. Box 448, Logansport, Indiana 46947
Sure-Feed broadcasters, broadcasters for seeds, fertilizer, granular chemicals, 6 models tractor mounted

Hesston Croporation, Industrial Division, Hesston, Kansas
Front Runner, tractor

Highway Equipment Co., 616 D Ave. N.W., Cedar Rapids, Iowa 52405
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Hoffco, Inc., 25 Washington Ave., Richmond, Ind. 47374
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Pumps
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Spray nozzles, complete
Sprayers, boom, cart
Sprayers, complete power unit
Sprayers, compressed air
Sprayers, hand, knapsack
Tanks, spray

Howard Rotavator Co., Inc., Box 100, 343 S. Division St., Harvard, Illinois 60033
Howard Turf Quaker, turf aerification
Howard Rotavator, seedbed preparation

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Weed Killer 38, selective weed killer for crops
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Hydro Turf, P.O. Box 3, Elk Grove Village, Illinois 60007
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Growth retardants
Erosion Control Chemicals

Hypro Division, Lear Siegler, Inc., 375 5th Ave. NW, New Brighton, Minnesota 55112
Pumps, piston, roller for sprayers
Valves
Strainers

I

Ideal Crane Div., Bert Parkhurst & Co., 15051 E. Admiral Place, Tulsa, Oklahoma 74116
Crane, hydraulic, lift up to 2,500 lbs.

Inject-O-Meter Manufacturing Co., Inc., 820 Thornton, Clovis, New Mexico 88101
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International mowers, rotary cutters; flail type; side mounted sickle
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International backhoes and loaders, all sizes
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Cadet 76, lawn and garden tractor
Cadet 55 and 75, riding mower
International power mower, rotary power mowers
Sand rake, self-propelled, riding

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Cyclamatic equipment

J

Jacklin Seed Co., Division Vaughan-Jacklin Corporation, E. 8803 Sprague, Spokane, Washington 99213
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Mower, greens; 22 inch self-propelled, triplex riding, 62 inches
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Johnson's Industrial Supply Co., 1941 Karlin Dr., St. Louis, Missouri 63131
Jisco™ Earth Augers, used in electric shop drills for drilling holes around drip area of trees, bushes, shrubs, for deep root feeding, watering and aerating

K

KDM Company, P.O. Box 6814, San Antonio, Texas 78209
Spra-Mate emulsifier, application adjuvant for invert emulsions

K-D Manufacturing Co., P.O. Box 4547, Waco, Texas 76705
K-D Kurb Dresser, tractor mounted edger, 3-point hitch

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Kees-Kaster, fertilizer spreader
Powerslice®, aerator, lawn
Kees-Krawler®, sprinkler, lawn, traveling
Garden tools, hand

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KM Copoloid, fungicide, liquid copper

KM Copper oxide
KM Copper Sulfate
Trona Alkron 100 parathion, insecticide, technical
Trona Metron 80 methyl parathion, insecticide, technical

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L

Lakeshore Equip. & Supply Co., 10237 Berea Rd., Cleveland, Ohio 44102
Replacement parts, mowers
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Lakeshore brand fertilizer

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Sprayers for turfs
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Spreaders, fertilizer, pull type

Lawn-Boy, Outboard Marine Corporation, P.O. Box 82409, Lincoln, Nebraska 68501
Lawn-Boy®, rotary mowers for lawn and garden
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Aerators

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Blower, leaf blower (Wind-row)
Edger/trimmer, lawn

Lindig Manufacturing Corporation, 1875 West County Road C, St. Paul, Minnesota 55113
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M-Series, L-Series, soil shredders
PortaScreens, soil screeners
Concho, compost shredder/grinders
Apache, leaf shredder/baggers
PowerBag, leaf power bagger
Low-Temp, steam aerators
Low-Temp, soil treating carts

Locke Manufacturing Division, Stellar Lawn Care, 1085 Connecticut Ave., Bridgeport, Conn. 06607
Mowers, reel, self-propelled and riding, 30 inches to 87 inches, rotary

Lockwood Corp., Box 160, Gering, Nebraska 69341
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Lombard Power Equipment, 418 Rocky River Drive, Cleveland, Ohio 44135
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London Fog Company, Crystal Bay, Minnesota 55323
London Fogger, foggers, thermal insecticidal type for insect control

Loveland Industries, Inc., P.O. Box 483, Loveland, Colorado 80537
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LTVAC Service Technology Corporation, 2345 W. Mockingbird Lane, Dallas, Texas 75235
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Lumenite Electronic Co., Franklin Park, Illinois
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Lundin-Milner, Inc., Los Altos, California
Chipper, will handle up to 3 inch diameter material, pull type, stationary, mounted; electric, gas, PTO powered

Lupton Enterprises, 32 Martha St., Tiffin, Ohio 44883
Log splitter, attachment to backhoe, replaces bucket in minutes

M

Gordon A. MacEachern, Ltd., Toronto, Ontario, Canada
Scoop-Hoop, litter and waste receptacle

Magline, Inc., 503 S. Mercer, Pinconning, Michigan 48650
Trailevator®, trailer, hydraulic elevating

Mallinckrodt Chemical Works, 3600 North Second St., St. Louis, Missouri 63160
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Cadminate®, turf fungicide
Fungo™, systemic turf fungicide, broad-spectrum
Calo-Clor®, mercuial fungicide
Calo-Gran®, granular mercurial fungicide
Koban®, turf fungicide
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Spring-Bak®, fungicide
Thiramad®, fungicide, broad-spectrum
Tobaz®, systemic fungicide
Po-San®, herbicide, post emerg., Poa annua control for fairways
Pre-San®, herbicide, preemerg., Poa annua control and crabgrass
Trex-San™, herbicide, broad-spectrum
Vitalon® Dark, turf colorant
Spray-Hawk®, mobile turf sprayer

Johns-Manville Corp., Box 290, 22 E. 40th St., New York, N.Y. 10016
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Marine Development & Research Corp., Freeport, N.Y.
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Markel Electric Products Co., Inc., Buffalo, N.Y.
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Market-Time, Inc., P.O. Box 294, Northbrook, Illinois 60062
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Orline Yard-arm, circular saw on a 6 ft. shaft

Marlow Pumps Div., ITT Bell & Gossett, Inc., P.O. Box 200, Midland Park, N.J. 07432
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Mars Industries, Inc., 5209 West Broadway, Minneapolis, Minn. 55429
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Suburban Angle Broom, tractor attachable rotary sweepers
Suburban Pick-up sweepers, tow-type turf pick-up sweepers

Martindale Electric Co., 1375 Hird Ave., Cleveland, Ohio 44107
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Protective Eyeshield, over-spectacle type eyeshield, one-piece plastic

Masonite Corporation, 29 N. Wacker Dr., Chicago, Illinois 60606
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- MF 12G, garden tractor 12 hp
- MF 10, garden tractor 10 hp
- MF 8H, garden tractor 8 hp
- MF 7, garden tractor 7 hp
- MF 6, riding lawn mower 6 hp
- MF 5, riding lawn mower 5 hp
- MF 310, self-propelled rotary mower 3.5 hp
- MF 210, push rotary mower 3.5 hp
- MF 228, snow blower 8 hp
- MF 255, rotary tiller 5 hp
- MF 254, rotary tiller 4 hp

Master Sprayers, Inc., 1511 W. 2nd St., Pomona, Calif. 91766
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- Washing unit, high pressure

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J. J. Mauget Co., P.O. Box 3422, Burbank, Calif. 91504
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- Inject-A-Min, nutrients
- Inject-A-Cide, insecticides
- Mauget Capsules, fungicide, benomyl

M-B Company, 1615 Wisconsin Ave., New Holstein, Wis. 53061
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McCulloch Corp., 6101 W. Century Blvd., Los Angeles, California
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- Portable generators, Mite-E-Lite

McDonough Power Equipment, Inc., McDonough, Georgia 30253
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- Mower, reel, self-propelled

McLaughlin Gormley King Co., 1715 S.E. Fifth St., Minneapolis, Minnesota 55414
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Melroe Division of Clark Equipment, Gwinner, North Dakota 58040
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- Melroe M-610 Bobcat Loader, 4 wheel drive, front end loader with landscape attachments
- Melroe M-970 Bobcat Loader, 4 wheel drive, front end loader with landscape attachments

Meinhardt Products Div., 2401 Gardner Rd., Broadview, Illinois 60153
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Melnor, Turf Irrigation Division, 1 Carol Place, Moonachie, New Jersey 07074
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Mertect® 340-F, thiabendazole, fungicide, flowable
Mertect® 160, fungicide, wettable powder
Mertect® 360, fungicide, wettable powder
Hormodin®, indole-3-butyric acid, root inducing substance
Gibrel® gibberellic acid, plant growth substance
8-Hydroxyquinoline Citrate Oxine Citrate, flower preserative

Merion Bluegrass Association, 101 Park Ave., New York, N.Y. 10017
Merion Kentucky Bluegrass

Miller Chemical & Fertilizer Corp., 3006 W. Coldspring Lane, Baltimore, Md. 21215
Miller, insecticides, fungicides, fertilizers, herbicides

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V-C 13®, nematicide

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TL10ETMG, greens sprayer
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N

Nalco Chemical Co., 180 N. Michigan Ave., Chicago, Illinois
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Nalkill weed killer, diuron, herbicide, granular

National Crane Corp., Waverly, Nebraska 68462
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Endosulfan, Thiodan, insecticide
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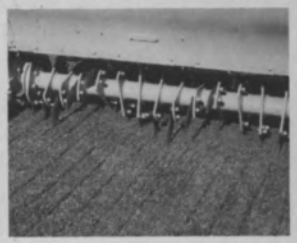

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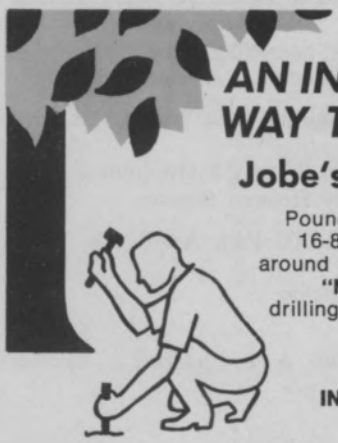

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Cap-Zin fungicide captan-zineb, fungicide
Fruit Tree Spray malathion-methoxychlor-captan, insecticide, fungicide
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Ornamental Spray malathion; chlordane, insecticide
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Roseman Mower Corporation, 2300 Chestnut, Glenview, Ill.
Mowers, reel; 3, 5, 7 and 9 gang, pull behind and hydraulic

Root-Lowell Corporation, 1000 Foreman Rd., Lowell, Michigan 49331
Durapower Sprayers, power sprayer, tank type, piston pump
Automist Electric Mistblowers, electric power, porable 1½-5 gals.
Automite Electric Duster
R-L Duster, rotary, crank operated
Sure-Seal Sprayers, compressed-air, 2-4 gals.
Seal-Tight Sprayers, compressed-air, 3-4 gals.
Lofstrand Sprayers, compressed-air, 3 gals.
Loyalty Sprayers, compressed-air, 2-3 gals.

Roto-Hoe Co., Newbury, Ohio 44065
Cut 'N Shred, shredder, 3½ hp, interchangeable with tiller

Rowco Mfg. Co., Inc., 48 Emerald St., Keene, N.H. 03431
Brushking®, brush cutter, engine driven

Roxy-Bonner, Inc., 2000 Pioneer Rd., Huntingdon Valley, Pa. 19006
Roxy, mower, gang
Lawnshear, mower, gang
Ideal, mower, gang

Royer Foundry & Machine Co., 158 Pringle St., Kingston, Penna. 18704
Royer Shredder, cleated belt shredder (soil, sand, peat, compost)
Royer Powerscreen, vibrating screen

Ryan Equipment, Outboard Maine Corporation, P.O. Box 82409, Lincoln, Nebraska 68501
Ryan Turf Equipment, mowers, rotary and flail; aerators, spikers, ground grooming equipment

Joseph T. Ryerson & Son, Inc., P.O. Box 8000-A, Chicago, Ill. 60680
Landscape Edging, steel

S

S & D Products, Inc., P.O. Box 66, Prairie du Chien, Wisconsin 53821
Eeesy Grow-Root contack Paket, fertilizer, slow release

S & H Industries, Inc., Cleveland, Ohio
Tailgate, for pickups, electric-hydraulic, handle loads up to 1000 lbs.

Sabre Saw Chain, Inc., Third Ave. & Sabre Drive, Niagara Falls, New York 14304
Sabre Saw Chain
Sabre Guide Bars
Sabre Sprockets
Sabre Wedges
Sabre Files
Sabre Accessories

Safeline Products, P.O. Box 550, Putnam, Conn. 06260
Respirators (all types), lung protection
Safety Glasses and goggles, eye and face protection
Hearing protectors, muff-type and ear plugs
Hard hats and caps, plastic safety hats and caps

Safety Test & Equipment Co., Inc., P.O. Box 898, Shelby, N.C.
Wood Chuck®, chipper, blades are V-grooved, shallow blade angle to slice chips away, mounted on 2-wheel trailer

Schutt's Equipment Co., Birmingham, Michigan
Backhoe Digger

M. J. Scott Co., P.O. Box 1097, Hutchinson, Kan. 67501
Grasshopper, mower, riding, 10 hp, electric start, compact design, zero turning radius, flex-action

The O. M. Scott & Sons Co., 160 Main St., Marysville, Ohio
Pro+turf™ fertilizer

Pro-Turf™ Starter fertilizer
Pro-Turf™ field fertilizer
Plus-2, herbicide
Pro-Turf™ insecticide
Pro-Turf™ fungicide
Spot Weeder, herbicide
Super Halts Plus, herbicide
Super Turf Builder Plus M, fertilizer

Sea Guard, Inc., 1501 Reybold Drive, New Castle, Del. 19720
N-Bar™, floating barrier to hold back aquatic vegetation

Seed Production Introduction Corp., P.O. Box 923, Minneapolis, Minnesota 55417
Pennstar Kentucky Bluegrass, turfgrass seed
Pennfine Perennial Ryegrass, turfgrass seed

Selma Trailer and Mfg. Co., P.O. Box 120, Selma, Calif. 93662
Trailers, hydraulic; 4x8, 6x8, 6x12 ft., drive or push load on bed
Lifts, scissors type, triple-tier, Model SM-41

Servis Equipment Co., Box 1590, Dallas, Texas 75221
Box Scrapers, hydraulic, automatic lift-trip, hand-lift, Seco Jr. models; curved blades cut and roll soil
Flex XV, mower, rotary, PTO driven, 15 ft. swath, independent gear boxes, wings raise hydraulically
Saturn V and VI, mower, rotary, PTO driven 5-6 ft. cut
Little Rino, landscape rake, 2 models
Gold Star, digger and utility crane

Sewerage Commission of the City of Milwaukee, P.O. Box 2079, Milwaukee, Wisconsin 53201
Milorganite fertilizer, fertilizer slow release

Seymour Smith & Son, Inc., 900 Main St., Oakville, Conn. 06779
Garden Tools, pruning shears, grass shears, hedge shears, lopping shears, tree pruners, pruning saws

Shell Chemical, 2401 Crow Canyon Rd., San Ramon, Calif. 94583
Akton® 2E, insecticide
Nemagon®, insecticide fumigant

The Sherwin-Williams Co., 101 Prospect, Cleveland, Ohio
Karbam® Black ferban, fungicide
Mulsoid Sulfur Micronized Wettable Sulfur, fungicide
Sherwin-Williams Arsenate of Lead, insecticide

Side-Winder Plant, Div. of FMC Corporation, P.O. Box 818, Minden, La. 71055
Leveler, land
Tillers

Sierra Chemical Company, 37650 Sycamore St., Newark, Calif. 94560
Agriform Fertilizers, slow release 16-7-12 (+ iron)
Agriform Planting Tablets, landscape fertilizer
Agriform Container Tablets, fertilizer for feeding woody and herbaceous plants in containers

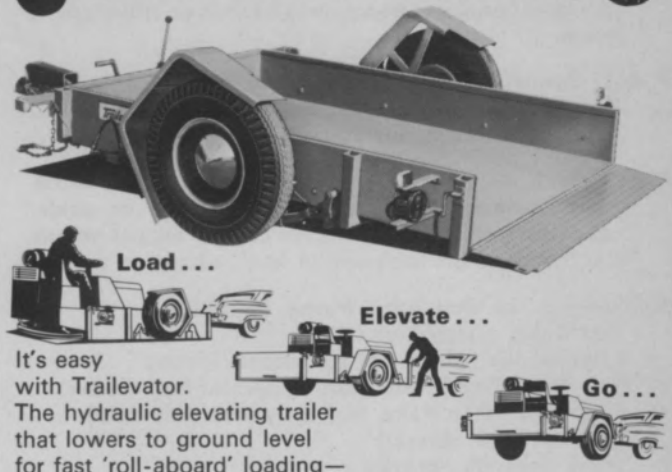
Sikorsky Aviation Div., United Aircraft Corp., Stratford, Conn.
Aircraft, helicopter

Simplex Manufacturing Co., 5224 N.E. 42nd Ave., Portland, Oregon 97218
Greenhouses

Simplicity Mfg. Co., Inc., Spring St., Port Washington, Wisconsin 53074
Tillers
Tractors
Rollers, turf
Mowers, rotary; reel, gang; sicklebar

Skaggs Turf Equipment Co., Canfield, Ohio
Trap Tender, rake, sandtrap, self-propelled

One Manhandling



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Skil Corporation, 5033 Elston Ave., Chicago, Ill. 60630
Skilsaw, chain saw, gas powered
Saws, electric

Skyworker Div., Transair Co., Inc., P.O. Box 360, Delaware, Ohio
Skyworker, aerial bucket; 40, 45 and 50 ft., 90° total movement on lower boom; twin buckets on either side of boom

R & G Sloane Mfg. Co., Sun Valley, California
Pipe fittings, clear PVC construction, for irrigation and other water distribution systems

Slope Tractor, Inc., 106 W. 9th Ave., Harper, Kansas 67058
Slope Runner, tractor mower, rotary flail or sickle, adjustable angle hydraulic lever control adjusts wheels and tractor chasis to remain in level attitude on a slope

Smithco, Inc., 11 West Ave., Wayne, Pa. 19087
Red Rider, tractor 8 and 10 hp
Little Beaver Spiker, turf equipment (Spiker)
Top Rider Top Dresser, turf equipment (top dresser)
Easy Rider Trap Rake, turf equipment (trap rake)
Lark Sprayers, sprayers
Hawk Sprayers, sprayers

Solo Motors, Inc., P.O. Box 5030, 5100 Chestnut Ave., Newport News, Virginia 23605
Sprayer, Model 425 hand operated
Mistblower, Model 410 3hp, Model 423 5 hp
Tractor Sprayer, 10 hp, Model 424 self-propelled; 18 hp, Model 450 self-propelled; Model 451 PTO mounted; Model 452 PTO mounted; 10 hp, Model 419 super custom mounted
Newport, blower Model 430 5 hp, mini Model 410 3 hp
Chain Saw, Model 610 3 SAE hp, Model 620 4 SAE hp, Model 650 6 SAE hp, Model 635 8 SAE hp, Model 660 7 SAE hp
Mower, sickle bar, 6.5 SAE hp, Model 520
Water Pump, 6.5 SAE hp, Model 801
Garden Tractor, Model 527 tiller 6.5 hp
Post Hole Digger, Model 812, 6.5 hp
Snow Blower, Model 813, 6.5 hp
Generator, Model 819, 110 volt
Engine, Model 272, 6.5 hp

Southern Mill Creek Products Co., Inc., P.O. Box 1096, Tampa, Florida 33601
SMCP Dursban Granules, insecticide
SMCP Mole Cricket Bait, insecticide
SMCP Dursban 2E, insecticide
SMCP Malathion, insecticide
Mallinckrodt Products, fungicides
DuPont Weed Killers, herbicides (bareground)
Foam Spray, insecticide carrier
Geigy, Diazinon, insecticide
Geigy, Sarolex, insecticide
Geigy, Pramitol, herbicide (bareground)
Tandex, herbicide (bareground)
Balan & Treflan, herbicide (preemergence)
DuPont Fungicides,
3M Aquatic Herbicides, herbicide (aquatic)
John Bean, sprayers

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TeeJet®, spray nozzles
FloodJet®, spray nozzles
VeeJet®, spray nozzles
FoamJet®, spray nozzles

Sprinkler Irrigation Supply Co., Div. of A. J. Miller, Inc., Campbell Rd., Royal Oak, Michigan 48067
Pipe, irrigation
Irrigation systems, complete
Sprinklers

Standard Manufacturing Co., 220 E. Fourth St., Cedar Falls, Iowa 50613
Porta-Span bridge

Stanford Seed Co., P.O. Box 230, Plymouth Meeting, Pennsylvania 19462
Crownvetch, seed, crowns or plants

Stauffer Chemical Co., Westport, Conn. 06880
Aspon®, insecticide
Betasan®, herbicide
Eptam®, herbicide
Imidan®, insecticide
Trithion®, insecticide
Vapam®, soil fumigant

Stihl American, Inc., 194 Greenwood Ave., Midland Park, New Jersey 07432
Chain Saws, electric and gasoline powered, saw, chain, powered
Stihl SG-17, blower/sprayer, back-pack gasoline powered
Stihl Cutquik, saw, circular cut-off for cement, stone, steel, pipes, etc.
Stihl Post Hole Digger, earth auger and planting tool, gasoline powered
Stihl Brush-Cutter, brush and weed cutter, gasoline powered
Stihl Hedge-Trimmer, hedge trimmer, gasoline powered, trim hedges and small brush/trees

Stull Chemical Company, 3400 Nacogdoches Rd., San Antonio, Texas 78217
Bivert®, invert emulsion adjuvant
Bivert Spray System, spray equipment for using invert emulsions—kits and complete units

Sudbury Laboratory, Inc., 572 Dutton Rd., Sudbury, Mass. 01776
Sudbury Soil Test Kits, soil testing equipment for pH,NPK
Sudbury tailor-made fertilizers, water soluble fertilizers, unit X, 44% N; unit Y, 44% P; unit Z, 44% K

Sun-Mastr Corporation, 603 S. Kansas Ave., Olathe, Kansas 66061
Safti-Shear Flail Mowers, 74" and 90" flail mowers
Leader Rotary Cutters, 5' and 6' rotary cutters
Mid-Mount Mowers, 27 mid-mount mower models for old and new tractors
Gang Reel Mowers, 3 and 5 gang reel mowers

Suzuki of San Diego, San Diego, Calif.
Tire Carrier, for Suzuki 4-wheel drive vehicle, swing-away tire carrier

T

Tallman Equipment Co., Inc., 3825 W. 31st St., Chicago, Illinois 60623
Shears

TCI, Inc., Hy. 12 East, Benson, Minn. 56215
Herculift, 4 W.D. forklift
F4, fertilizer spreader

Techumseh Products Co., 900 North St., Grafton, Wis. 53024
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Tenneco Oil Co., P.O. Box 18, Houston, Texas
Tenneco 400, 500, diluent (solvent)
Tenneco Benzene, diluent (solvent)
Tenneco Para Xylene, diluent (solvent)

Terrain King Corporation, P.O. Box 7616, 4444 Center, Houston, Texas 77007
Terrain King, mower, rotary, 5-25 ft.
Slopemower, mower, flail, 72 inches to 190 inches
Railbird, specialized mowers, boom type, guardrail and fence mower

Thomas Equipment, Ltd., Centreville, New Brunswick, Canada
Mower, sickle, attachment to front end loader

Thompson-Hayward Chemical Co., 4200 Spreaker Rd., Kansas City, Kansas 66110
Casoraon®, dichlobenil, herbicide, selective preemergent
Du-Ter®, triphenyltin hydroxide, fungicide
De-Fend®, dimethoate, insecticide, systemic
Biotrol, BTB, biological insecticide
Deo-Weed, herbicide, phenoxy, postemergence
Uni-Mix, surfactant/compatibility agent

Tilton Equipment Co., 855 3rd St. S.W., New Brighton, Minnesota 55112
Jonsered Chain Saws, four models, 11½-20 lbs. weight, 12-60 inch bar length, automatic and dual system chain oiler

The Toro Company, 8111 Lyndale Ave. South, Bloomington, Minn. 55420
Hevi-Duty, mower, rotary (hand or self-propelled) 21 inch and 25 inch
Whirlwind, mower, rotary, 31 inch
Trojan, 60 inch cut
Professional, mower, triplex reel, 70 inch, 76 inch and 84 inch cut
Greenmaster, mower, walk greensmower, 21 inch
Greensmaster 3, mower, triplex greensmower, riding
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Landscaper 4, multi-purpose landscaping tool for seedbed preparation, seeding, fertilizing, also Model 6 Pro.
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EVCO Hydromulcher, equipment for the hydraulic establishment of vegetation
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Roughmaster, 4 and 5 bladed rough area reel mowers
Toro Frames, reel mower transport and lift frames
Toro Turf Tractor, utility turf tractor
Sandpro, sand trap maintenance and grooming unit, all hydraulic

The Toro Company, Moist O'Matic Division, P.O. Box 489, Riverside, California 92502
Automatic Controller, irrigation equipment, hydraulic or electric; 4, 8, 11, 23 station control satelite
Automatic Remote Control Valves, ¾ inch to 2 inch, hydraulic or electric
Pop Up Spray Sprinklers, 8-54 ft. diameter stream spray
Pop Up Rotary Sprinklers, 65-235 ft. diameter, valve and hand, hydraulic or electric, 2 speed, gear driven
Shrub and Bubbler Sprinklers, adjustable, stream, flood
Boring Machine, 10 ft. and 16 ft. models
Trenching Machines, residential, light commercial, converts to boring machine, 1-3 inches wide, 7 inches deep
Quick Coupling Valves, standard, vinyl or with lock cover, valve range ¾ inch to 1½ inches
Impact Sprinklers, ½ inch to 1¼ inches threaded connection, part or full circle

Tradewinds, Inc., P.O. Box 1191, Tacoma, Washington 98401
Holder Tractors and Implements, tractors, 4-wheel drive, 2-wheel drive, diesel, 14 SAE horsepower to 40 SAE horsepower

Tree-Ject Company, P.O. Box 396, Waycross, Georgia 31501
Tree-Ject, tree injector
Reddi-Fire Drip Torch, drip or drag torch
Ezy-Spot Paints, tree marking paints

Tuco, Div. of The Upjohn Co., Kalamazoo, Michigan 49001
Acti-Dione TGF, cycloheximide, fungicide, turf and ornamental
Acti-Dione Thiram, cycloheximide and thiram, fungicide, turf
Acti-Dione RZ, cycloheximide and PCNB, fungicide, turf
Enide 50W, diphenamid, herbicide, dichondra, ornamentals
Botran 75W, DCNA, fungicide, fruit trees, ornamentals

Turf-Vac Corporation, 3342 Olive Ave., P.O. Box 7382, Long Beach, California 90807
Turf Sweeper, 4½-10 ft. width, self-propelled and tractor drawn, turf and paved surfaces

Twin City Seed, 500 30th Ave. N.E., Minneapolis, Minnesota 55418
Park, Kentuck Bluegrass seed

U

Union Carbide Corp., Agricultural Products, P.O. Box 1906, Salinas, California 93901
Sevin® carbaryl, insecticide; liquid, dust, wettable powder

Uniroyal Chemical, Div. of Uniroyal, Inc., Bethany, Conn. 06770
Maintain® 125, herbicide
MH-30® maleic hydrazide, growth regulant
Royal MH-30®, growth regulant
Omite®, insecticide; wettable powder, dust, liquid
Slo-Gro®, growth regulant
Timek® 106 aldicarb, insecticide

Up-Right Scaffolds, 1013 Pardee St., Berkeley, Calif. 94710
Scaffolds, portable aluminum for tree trimming

Universal Division of Leigh Products, Inc., Coopersville, Michigan 49404
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Sprayers, open top tank
Slide Sprayer
Flame Sprayers
Hose-end Sprayers
Power Sprayer
Continuous and intermittend hand sprayers
Hand Dusters
Thermal Fogger, mineral base

Universal Motor Division, Medalist Industries, 1552 Harrison St., Oshkosh, Wisconsin 54901
Aquamaster® Centrifugal pumps, pumps for liquid fertilizer and water transfer

U.S. Borax & Chemical Corporation, 3075 Wilshire Blvd., Los Angeles, California 90010
Maintain® CF 125, growth retardant
Maintain® A, growth regulator, tree wound paint
Ureabor®, nonselective herbicide
Ureabor® 8D, nonselective herbicide
Monobor-Chlorate® Granular, nonselective herbicide
Hibor® C, nonselective herbicide
Polybor-Chlorate®, nonselective herbicide

Borocil® IV, nonselective herbicide
Borate Compounds, nonselective herbicide
Potassium Chloride, potash
Borax, trace elements
Solubor, trace elements

U.S. Gypsum, 101 South Wacker Dr., Chicago, Ill. 60606
Grand Prize®, natural clay soil conditioner

V

Valley Products Corporation, Valley, Nebr. 68064
Stump Cutter, removes stumps of any size to 8 inch below ground, compact, transports in car trunk

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Diadem Brush Chipper, up to 2½" diam.
Diadem Fertilizer Spreader and Seeder, broadcast type, PTO, 3 pt. hitch
KWH Mistblower, back pack
KWH Blowers, back pack and wheeled models
KWH Bora Mistblower, skid mounted, Wankel powered, 65 ft. to 80 ft. reach
Electric Bug Killer, lures and kills insects from area up to 3 acres

Velsicol Chemical Corporation, 341 East Ohio Street, Chicago, Illinois 60611
Banvel (dicamba), herbicide, 4S and Banvel and 2,4-D
Accutrol, spray system, air emulsion
Chlordane, insecticide, 25G, 72EC, 40%WP
Heptachlor, insecticide, 2.5% G, 5% G, 10% G

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Trencher
Vibratory Plow
Backhoe
Tree Spade (Mover), 13-18 hp
Stump Cutter
Log Splitter
Log Chipper

Viking Pump Co., 4th and Shutte Sts., Cedar Falls, Iowa
Pumps

Village Blacksmith, Vine and Second Sts., Boonville, Mo. 65233
Hand Tools, lawn and garden
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Cultivator, electric
Trimmers, electric, hedge
Magic Lantern®, electric insect controller
Blitz Fog® Fogger, lawn mower and garden tractor attachment
Blitz Fog®, insecticide
Blitz Fog®, propane foggers
Blitz Fog®, electric foggers
Portable Electric Cord Reels

Vistron Corporation, 1650 Midland Bldg., Cleveland, Ohio 44115
Urea, fertilizer
Anhydrous ammonia, fertilizer
Nitrogen solutions, fertilizer

Vogel Tool and Die Corp., Stone Park, Illinois
Post hole drill

W-X-Y-Z

Waldon, Inc., 201 West Oklahoma Ave., Fairview, Okla. 73737
Tractor, hydraulic, 4-wheel drive, articulating and oscillating type frame plus utility air, may be used as a forklift or loader
Pickup Broom, attachment to Waldon 5000 tractor
Snow Blower, attachment, auxil. engine, 65 hp, chain

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ALGAE CONTROL

in ponds, lakes, lagoons, reservoirs, irrigation canals and water holes on farms, golf courses, nurseries and parks.

MILWAUKEE, WIS. Scientists at Great Lakes Biochemical Co., Inc. have recently received registration from the EPA for ALGIMYCIN PLL-C.

A new formulation, ALGIMYCIN PLL-C remains soluble over a wide pH range and is most effective when applied directly to the algae mats, either by spray on the surface or injected on the bottom of the body of water.

ALGIMYCIN PLL-C is not toxic to most common fresh water and tropical fish, desirable aquatic plants, animals, birds or pets, when used as directed. However, it is such an efficient algicide that bodies of water with heavy algae infestations should be treated in sections so as to prevent oxygen depletion caused by large quantities of dead and decaying algae.

Economical and easy-to-use, ALGIMYCIN PLL-C makes green, slimy ponds clear and sparkling again.

Write Dr. "Bob" for more information on how to clear up ugly slimy waters.

Great Lakes Biochemical Co., Inc.

6120 West Douglas Avenue
Milwaukee, Wisconsin 53218

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Backhoe, attachment to Waldon 5000 tractor

Walsh Manufacturing Co., 1200 Fisher St., Charles City, Iowa 50616
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Spray Booms
Spray Guns
Spray Nozzles

Warren's Turf Nursery, Inc., 8400 West 111th St., Palos Park, Illinois 60464
Sod, Warren's A-20 Bluegrass
Sod, Warren's A-34 Bluegrass

Water-In, Inc., P.O. Box 421, Altadena, California 91001
Water-In, wetting agent, soil conditioner, liquid or dry form

Waymark, 44 River St., Cortland, N.Y. 13045
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Sprayers, boom
Sprayers, complete power unit

Wayne Engineering Corporation, Cedar Falls, Iowa
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Wayne Manufacturing Co., 1201 E. Lexington St., Pomona, California 91766
Stump King, stump remover, dual cutting wheels
Wayne Brush Chipper, brush chipper, 6-sided disposable bed knife, hydraulic safety brake
Broom, disc type, polypropylene construction

Weather-matic Division, Telsco Industries, P.O. Box 18205, Dallas, Texas 75218
Control, electric, irrigation
Valve, solenoid
Rotary head
Spray head
Nozzles
Accessories

H. N. Webster, Mfg., P.O. Box 623, Sebring, Florida 33870
Webstermatic, irrigation, quick coupling riser valves

WD-40 Company, 5390 Napa Street, San Diego, California 93128
WD-40, lubricant, stops squeaks, loosens rusted parts, protects metal, displaces moisture

Weldex Corporation, Grafton, Mass.
Crane, for pickup trucks, lifts up to 2500 lbs., full circle swing, 25 ft. cable

Welsh Mfg. Co., 9 Magnolia St., Providence, R.I. 02909
Pesticide Respirators, safety equipment
Ammonia respirators
Dust Respirators
Goggles
Safety Caps

West Chemical Products, Inc., 42-16 West St., New York, N.Y. 11101
Assault, herbicide, non-selective, bareground

Western Products, Div. Douglas Dynamics Corp., 1234 North 62nd St., Milwaukee, Wisc. 53213
Roll-Action™ Blade, snow plowing

Weyerhaeuser Company, Tacoma, Wash. 98401
Silva Fiber, mulch for hydro-seeding
PFM, mulch for hydro-seeding

Wheel Horse Products, Inc., 515 W. Ireland Rd., South Bend, Indiana 46614
Tractor, lawn and garden; 10, 12, 14, 16, 18 hp automatic; GT14 automatic; 8, 10, 12, 14 hp eight speed; 8 hp four speed; Ranger 700 and 800; Rider R-26
Rotary Mower, 26, 36, 42, 48 inch side discharge, 60 inch rear mount (PTO)
Grader Blade, 40 inch
Tiller, 36 inch and 38 inch
Sickle, 42 inch and 50 inch
Disc, 32 inch
Harrow
Cultivator
Utility Wagon
Dump Trailer
Lawn Roller, 32 inch
Aerator, 36 inch
Lawn Sweeper, 31 inch and 38 inch
Dozer Blade, 39, 42, 54 inch

Williamstown Irrigation, Inc., Williamstown, N.Y. 13493
Irrigation riser valves
Irrigation sprinkler heads
Irrigation systems, complete

Willmar Manufacturing Co., Wilmar, Minn.
Spreader, pull-type, floatation tires, spreads up to 1½ tons per load

Willson Products Div., Ray-O-Vac Co., 2nd and Washington Aves., Reading, Pa.
Maskes, gas
Masks, dust
Respirators
Safety equipment
Helmets

Witco Chemical Corporation, Organics Division, 277 Park Ave., New York, N.Y. 10017
Emcol 14, spreader sticker
Emcol H-53, H-54, H-55, spray oil emulsifiers
Emcol H-A, H-2A, H-B, H-C, HJP-1, emulsifiers for liquid fertilization

Winru Chemical & Sales Co., 923 State Line, Kansas City, Missouri 64101
Baygon, insecticide
Synergized Pyrethrins, insecticides
Chlordane, insecticide
Malathion, insecticide
Diazinon, insecticide
Zectran, insecticide
Infuco Compression Sprayers, environmental protection chemical sprayer
Gas Masks, Mine safety, safety equipment
Phostoxin, fumigant
Infuco Motorized pumps, electric or gas pump units

Winterlawn Chemical Corp., a subsidiary of Virginia Chemicals, Inc., 3340 West Norfolk Rd., Portsmouth, Virginia 23703
Winterlawn® Grass Color Concentrate, permanent pigmented, water-soluble emulsion color system for dormant vegetation; also in aerosol containers

Wood Brothers, Inc. Oregon, Illinois
Mower, 3-point hitch, rotary, PTO driven, adjustable

Wright Saw Div., Thomas Industries, 207 E. Broadway, Louisville, Ky.
Saws, chain
Saws, manual
Saws, power

Yardman, The Leisure Group, Inc., Jackson, Mich.
Mowers

WEEDS TREES and TURF
1972
ARTICLE INDEX

KEY: Feature article (fa); news story, (ns); conference report, (cr); book report, (br); obituary, (o); and editorial, (ed); (c) column.

A

	Issue Pg.
Accutrol — Industry Unites Chemicals and Air (fa)	Apr. 18
Adelphi, Birth of A Bluegrass (fa)	Aug. 46
(Aerial Bucket), On the Job In A Bucket, Hoosier Arborist Tells How (fa)	Aug. 29
Agriculture, Yearbook of (ed)	Sept. 8
Air and Chemicals, Industry Unites — Accutrol (fa)	Apr. 18
Alabama, Applicator Use Laws, Part I (fa)	Oct. 8
Alaska, Applicator Use Laws, Part I (fa)	Oct. 8
(Aluminum) Nozzles and Spray Systems by (Donald R. Weber (fa)	Jan. 10
American Sod Producers Assn. Stages California Sod Blast (cr)	Apr. 54
American Sod Producers Association Visits Canada In Force (cr)	Sept. 42
Amur, White, Florida's $2.8 Million Aquatic Plant Research and Control Program by Dr. Alva P. Burkhalter (fa)	July 20
Aquatic Herbicides, How We Reduced Drift With Directa Spra by Vernon Meyers (fa)	July 16
Aquatic Herbicides, New Possibilities by Dr. C. Hiltibran (fa)	July 26
(Aquatic), Modern Biocides — A New Dimension to Water's Complex Environment by Dr. Charles R. Walker (fa)	July 14
A Quiet Happy New Year (ed)	Dec. 9
Aquatic Weed Control, Slow Release Herbicides, (A New View In by N. F. Cardarelli)	May 16
Aquatic Weed History, Century Old Problem (fa) by Julian J. Raynes	July 12
(Aquatic Weed), Hydrilla In Iowa (ns)	Oct. 14
Aquatic Weeds — A National Problem (cr)	Sept. 28
Aquatic Weeds, Common, Aquatic Herbicides by Dr. Robert C. Hiltibran (fa)	July 26
(Applicator, Custom), Injections System Keeps Nematodes In Check (fa)	May 20
Applicators, International Pesticide, Inc., (Board of Directors (cr)	Nov. 16
Applicators, International Pesticide, Inc., Convention (cr)	Nov. 16
Applicator's Tea Party (ed)	Nov. 4
Applicator Use Laws, Part I (fa)	Oct. 8
Applicator Use Laws, Part II (fa)	Nov. 9
(Arboriculture), Prognosis for the Wounded Tree by Dan Neely (fa)	Aug. 16
Arborist, DED Control Kindles Strong Arborist Interest (ns)	June 18
Arborist, Hoosier Tells How, On the Job In A Bucket (fa)	Aug. 29
Arborists, International Shade Tree Conference Report 48th Annual (cr)	Oct. 18
Arborists, National Association, Elects Officers (cr)	Apr. 38
Arizona, Applicator Use Laws, Part I (fa)	Oct. 9
Arkansas, Applicator Use Laws, Part I (fa)	Oct. 9
Arvida Corporation, Integrated Land Development (fa)	Jan. 8
Associations, Green Industry (fa)	Dec. 75
Banvel, Victorious War On Brush (ns)	Sept. 24

Equipment Directory

Snowblowers
Tractor, electric start, automatic transmission

Yazoo Manufacturing Co., 3607 Livingston Rd., Jackson, Miss. 39216
Yazoo Power Mowers, rotary, lawn; push, self-propelled, rider
Yazoo Edger

York Rakes, Mill and Watson Sts., Unadilla, N.Y. 13849
Rakes (York), landscape equipment

Zonolite, W. R. Grace & Co., P.O. Box 517, Travelers Rest, S.C. 29690
Vermiculite, soil conditioner
Horticultural Perlie
Terra-Lite
Redi-Earth, synthetic soil

Zurn Industries, Inc., Hays Mfg., 12th and Plum, Erie, Pa. 16512
(See Hays Mfg.)

B

	Issue Pg.
Baron, Bullish On, by Peter Loft and John Morrissey (ns)	Feb. 25
Benlate, Dutch Elm Disease (fa)	Apr. 13
(Benlate), DED Control Kindles Strong Arborist Interest (ns)	June 18
Benlate, Tidewater and Metropolitan Shade Tree Conferences Discuss Benlate Fungicide (cr)	Dec. 74
Biocides, Modern — A New Dimension to Water's Complex Environment by Dr. Charles R. Walker (fa)	July 14
Biological Control for Gypsy Moth (ns)	Mar. 57
Birth of A Bluegrass (fa)	Aug. 46
(Brass) Nozzles and Spray Systems by Donald R. Weber (fa)	Jan. 10
(Brush Control), Accutrol — Industry Unites Chemicals and Air (fa)	Apr. 18
Brush Control, Giant Brushroller Compresses Brush (ns)	Sept. 44
Brush Control, Victorious War On (ns)	Sept. 24
Bucket Safety Occupational Safety and Health Act (ed)	Aug. 6
Bullish on Baron by Peter Loft and John Morrissey (ns)	Feb. 25
(Business), Chem-Trol Weed Control, A Business With A Future (fa)	Sept. 20
(Business), Golf Course Development Outlook-1972 by Harry C. Eckhoff (fa)	Feb. 18
(Business), Marketing Order Concept A Necessity for Sod Producers by Tony Tashnick (fa)	Nov. 30
(Business), Selling A Tree Program to The City by William T. Bell (fa)	Aug. 23

C

California, Applicator Use Laws, Part I (fa)	Oct. 9
California, The View from, Turf Pest Control and the Environment (fa)	Feb. 28
(Cemetery), Super Duals Protect Turf At Memory Gardens by Michael Lillis (fa)	Nov. 37
(Ceramic) Nozzles and Spray Systems by Donald R. Weber (fa)	Jan. 10
Chain Saw, How to Select A Pro-Grade by Hank Harvey (fa)	Aug. 14
Chemical Contamination, Modern Biocides — A New Dimension to Water's Complex Environment by Dr. Charles R. Walker (fa)	July 14
Chemicals and Air, Industry Unites — Accutrol (fa)	Apr. 18
Chemicals, Applicator Use Laws, Part II (fa)	Nov. 9
Chemicals, Federal Environmental Pesticide Control Act (ns)	Nov. 7
Chemicals Reduce Maintenance Costs for Maryland Highways (ns)	Mar. 14
Chemicals, Turfgrass Retardation With by D. M. Elkins (fa)	May 18
Chemical Weed Control Cuts Labor Costs In Half (fa)	Mar. 19
Chem-Trol Weed Control, A Business With A Future (fa)	Sept. 20
Chicken Feed from Clippings (ns)	May 56
Collecting That Hard Earned Dollar (fa)	Dec. 21
Colorado, Applicator Use Laws, Part I (fa)	Oct. 9
Compost, Organic, Fertilizer from Animal Wastes (fa)	Sept. 15
Conference, ASPA Stages California Sod Blast (cr)	Apr. 53
Conference, 43rd International (GCSAA) Turfgrass (cr)	Apr. 23
Connecticut, Applicator Use Laws, (Part I)	Oct. 9
Contractor Cites Building and Remodeling Trends, What A Golf Course Should Be by Richard M. Phelps (fa)	June 16
Control Program and Research, Florida's $2.8 Million Aquatic Plant by Dr. Alva P. Burkhalter (fa)	July 20
Cutrine-Diquat Combo Registered In Florida (ns)	Sept. 28

D

DDT Finale, The (ed)	June 6
Delaware, Applicator Use Laws, Part I (fa)	Oct. 9
Development, Integrated Land, The Green Industry At Work (fa)	Jan. 8
Diquat-Cutrine Combo Registered In Florida (ns)	Sept. 28
Directa Spra — New Compact Sprayer, How We Reduced Drift With Aquatic Herbicides by Vernon Meyers (fa)	July 16
Directory of Sod Terms (fa)	June 43
Disease Control, Programmed Turf by Robert T. Miller (fa)	Feb. 16
Drainage Ditches, Herbicides Keep Jacksonville Open by C. C. Holbrook (fa)	Mar. 16
Dutch Elm Disease Control Kindles Strong Arborist Interest (ns)	June 18
Dutch Elm Disease, Lab Seeks Solutions to Tree Problems by Dr. Charles L. Wilson (fa)	Feb. 44
Dutch Elm Disease, One Step Closer to a Cure (fa)	Apr. 13
Dutch Elm Disease, Tidewater and Metropolitan Shade Tree Conferences Discuss Benlate Fungicide (cr)	Dec. 74

E

Ecologist's View, The, Rights-of-Way Maintenance — The Future by Dr. Donald A. Spencer (fa)	June 10
(Ecology), The Public Relations of Public Spraying by Jim Hansen (fa)	May 12
Employees, Continuous Training, Technique for Holding (fa)	Jan. 28
Environment, A New Dimension to Water's Complex, Modern Biocides — by Dr. Charles R. Walker (fa)	July 14
Environment, Effects of Weed Control On the by W. A. Harvey	Jan. 14
Environmental Pesticide Control Bill (ed)	Mar. 8
Environment, Turf Pest Control and the (fa)	Feb. 28
Environmental Protection Agency, Dutch Elm Disease (fa)	Apr. 13
(Equipment), Accutrol — Industry Unites Chemicals and Air (fa)	Apr. 18
(Equipment), ASPA Visits Canada In Force (cr)	Sept. 42
(Equipment), Aquatic Weed History, Century Old Problem (fa)	July 12
(Equipment), Aquatic Weeds A National Problem (cr)	Sept. 28

Issue Pg.

(Equipment), Giant Brushroller Compresses Brush (ns) ..... Sept. 44
(Equipment), How to Select A Pro-Grade Chain Saw by Hank Harvey (fa) ..... Aug. 14
(Equipment), How We Reduced Drift With Aquatic Herbicides, Directa Spra by Vernon Meyers (fa) ..... July 16
(Equipment), Nozzles and Spray Systems by Donald R. Weber (fa) ..... Jan. 10
(Equipment), On the Job In A Bucket (fa) ..... Aug. 29
(Equipment), Power Saw Safety by Hank Harvey, Jr. (fa) ..... Oct. 11
(Equipment), Power Saws In Trees by Blair E. Caplinger (fa) ..... Aug. 18
(Equipment), Power Saws, Why They Fail — and How to Avoid Trouble by Hank F. Harvey, Jr. (fa) ..... Sept. 16
(Equipment), Pros and Cons of Rolled or Palletized Sod by Robert Hawkins (fa) ..... July 44
(Equipment), Sod Producers Association Stages California Sod Blast (cr) ..... April 53
(Equipment), Super Duals Protect Turf At Memory Gardens by Michael Lillis (fa) ..... Nov. 37

F

Federal Environmental Pesticide Control Act (ns) ..... Nov. 7
Fertilizer from Animal Wastes (fa) ..... Sept. 15
(Fertilizer), Slow Release Nitrogen, Golf Course Labor Saver (fa) ..... Sept. 22
(Fertilizer), Sulfur for Turfgrass by Dr. Fred V. Grau (ns) ..... Feb. 22
(Fertilizer), Turf Nutrition by Wm. E. Knoop (fa) ..... Feb. 14
Florida, Applicator Use Laws, Part I (fa) ..... Oct. 9
Florida's $2.8 Million Aquatic Plant Research and Control Program by Dr. Alva P. Burkhalter (fa) ..... July 20
Fluorescence and the Federal Seed Act by C. R. Edwards (fa) ..... May 52
(Fungicide), DED Control Kindles Strong Arborist Interest (ns) ..... June 18
(Fungicides), Programmed Turf Disease Control by Robert T. Miller (fa) ..... Feb. 16
Fusarium, Lab Seeks Solutions to Tree Problems by Dr. Charles L. Wilson (fa) ..... Feb. 44
Future, The, Rights-of-Way Maintenance — The Ecologist's View by Dr. Donald A. Spencer (fa) ..... June 10
Future, The — Rights-of-Way Maintenance, The Public View by Roland C. Clement (fa) ..... June 13
Future, The, — The Utility View, Rights-of-Way Maintenance by Gordon Mundrane (fa) ..... June 12

G

Georgia, Applicator Use Laws, Part I ..... Oct. 22
Golf Course, A, What Should Be by Richard M. Phelps (fa) ..... June 16
Golf Course Development Outlook — 1972 by Harry C. Eckhoff (fa) ..... Feb. 18
Golf Course, Even In Las Vegas . . . You Can't Gamble With Turf (ns) ..... July 18
(Golf Course), Integrated Land Development (fa) ..... Jan. 8
Golf Course Labor-Saver, Slow Release Nitrogen (fa) ..... Sept. 22
Golf Course, Oakland Hills, Grooming The Monster (fa) ..... Oct. 12
GCSAA New Director, Conrad L. Scheetz (ns) ..... Nov. 26
Golf Course Superintendents Association of America, Officers and Directors for 1972 (cr) ..... Apr. 24
Golf Course Superintendents, 43rd International Turfgrass Conference and Show (cr) ..... Apr. 23
(Green Industry At Work), Integrated Land Development (fa) ..... Jan. 8
Green Industry, Our Brave New World (ed) ..... Apr. 8
Growth Retardants, Turfgrass Retardation With Chemicals by D. M. Elkins (fa) ..... May 18
Guideline Specifications for Sodding (fa) ..... June 43
Gypsy Moth, Biological Control for (ns) ..... Mar. 57
Gypsy Moth, Imidan Deals Blow to (ns) ..... Aug. 42

H

Hat Trick, The (ed) ..... May 8
Harvey, Hank, Jr., "Collecting That Hard Earned Dollar" ..... Dec. 12
Hawaii, Applicator Use Laws, Part I ..... Oct. 22
(Herbicide), Effects of Weed Control On the Environment by W. A. Harvey (fa) ..... Jan. 14
Herbicides, Aquatic, How We Reduced Drift With by Vernon Myers (fa) ..... July 16
Herbicides, Aquatic, New Possibilities by Dr. Robert C. Hiltibran (fa) ..... July 26
(Herbicides), Chemical Weed Control Cuts Labor Costs In Half (fa) ..... Mar. 19
Herbicides Keep Jacksonville Drainage Ditches Open by C. C. Holbrook (fa) ..... Mar. 16
Herbicides, Slow Release, A New View In Aquatic Weed Control by N. F. Cardarelli (fa) ..... May 16
Herbicide, Tandex (ns) ..... Sept. 40
(Herbicide), Weed Control Western Style, Krovar I (fa) ..... Sept. 11
Highways, Chemicals Reduce Maintenance Costs for Maryland (ns) ..... Mar. 14
Hyacinth Control Society, Aquatic Weeds — A National Problem (cr) ..... Sept. 28
Hyacinth, Water, Weevil Battalion Charges (fa) ..... Nov. 18
Hyacinths, Water, Aquatic Weed History by Julian J. Raynes (fa) ..... July 12
Hydrilla In Iowa (ns) ..... Oct. 14

I

Ice Rinks, Turfgrass (ns) ..... Nov. 29
Idaho, Applicator Use Laws, Part I (fa) ..... Oct. 22
Illinois, Applicator Use Laws, Part I (fa) ..... Oct. 22
Imidan Deals Decisive Blow to Gypsy Moth (ns) ..... Aug. 42
Indiana, Applicator Use Laws, Part I (fa) ..... Oct. 22
Industry, Our Dynamic Green (ed) ..... Feb. 8
Industry's Role In Weed Science by Dr. Glenn C. Klingman (fa) ..... Mar. 22

Issue Pg.

Industry Unites Chemicals and Air — Accutrol (fa) ..... Apr. 18
Industrial Weed Conference, Texas, Vegetation Maintenance (fa) ..... Dec. 12
Injection System Keeps Nematodes In Check (fa) ..... May 20
(Insecticide), Biological Control for Gypsy Moth (ns) ..... Mar. 57
Insecticide, Imidan Deals Decisive Blow to Gypsy Moth (ns) ..... Aug. 42
(Insecticide), Turf Pest Control and the Environment (fa) ..... Feb. 28
International Shade Tree Conference Report, 48th Annual (cr) ..... Oct. 18
Iowa, Applicator Use Laws, Part I (fa) ..... Oct. 22
(Irrigation), Even In Las Vegas . . . You Can't Gamble With Turf (ns) ..... July 18

J-K

Kansas, Applicator Use Laws, Part One (fa) ..... Oct. 22
Kentucky, Applicators Use Laws, Part I (fa) ..... Oct. 24
Kentucky Bluegrass, Adelphi, Birth of A (fa) ..... Aug. 46
Kentucky Bluegrass, Bullish On Baron by Peter Loft and John Morrissey (ns) ..... Feb. 25
Kentucky Bluegrass, The Search for Shade Tolerant Turf, Nugget (ns) ..... Feb. 19
Krovar I, Weed Control Western Style (fa) ..... Sept. 11

L

Lab Seeks Solutions to Tree Problems by Dr. Charles L. Wilson (fa) ..... Feb. 44
Labor, Chemical Weed Control Cuts Costs In Half (fa) ..... Mar. 19
Landscape Design, Instant Shade In, Mature Tree Transplants by Ross Barnekow (fa) ..... Oct. 16
(Landscape), Match Tree Selection to Use Area by William H. Collins (fa) ..... Jan. 20
Las Vegas, Even In, You Can't Gamble With Turf (ns) ..... July 18
(Legislation), Federal Environmental Pesticide Control Act (ns) ..... Nov. 7
Loaders, They Tip'em to Test'em (fa) ..... Dec. 20
Louisiana, Applicator Use Laws, Part I (fa) ..... Oct. 24

M

Maine, Applicator Use Laws, Part I ..... Oct. 24
Maintenance, Chemicals Reduce Costs for Maryland Highway (ns) ..... Mar. 14
(Maintenance), Even In Las Vegas . . . You Can't Gamble With Turf (ns) ..... July 18
Maintenance, Grooming the Monster (fa) ..... Oct. 12
(Maintenance), Herbicides Keep Jacksonville Drainage Ditches Open by C. C. Holbrook (fa) ..... Mar. 16
(Maintenance) Integrated Land Development (fa) ..... Jan. 8
Management Factors Affecting Sod Heating (fa) ..... Mar. 44
Maryland, Applicator Use Laws, Part I (fa) ..... Oct. 24
Massachusetts, Applicator Use Laws, Part I (fa) ..... Oct. 24
Mature Tree Transplants, Instant Shade In Landscape Design by Ross Branekow (fa) ..... Oct. 16
Michigan, Applicator Use Laws, Part I ..... Oct. 24
Minnesota, Applicator Use Laws, Part I (fa) ..... Oct. 24
Mississippi, Applicator Use Laws, Part I (fa) ..... Oct. 24
Missouri, Applicator Use Laws, Part I (fa) ..... Oct. 24
Money, Collecting That Hard Earned Dollar (fa) ..... Dec. 21
Montana, Applicator Use Laws, Part II (fa) ..... Nov. 9

N

Nader, Ralph, 43rd International Turfgrass Conference, GCSAA (cr) ..... Apr. 23
Nebraska, Applicator Use Laws, Part II (fa) ..... Nov. 9
Nematodes, Injection System, Keeps In Check (fa) ..... May 20
Nevada, Applicator Use Laws, Part II (fa) ..... Nov. 9
New Hampshire, Applicator Use Laws, Part II (fa) ..... Nov. 9
New Jersey, Applicator Use Laws, Part II (fa) ..... Nov. 10
New Mexico, Applicator Use Laws, Part II (fa) ..... Nov. 10
New York, Applicators Use Laws, Part II (fa) ..... Nov. 10
Nitrogen, Slow Release, Golf Course Labor-Saver (fa) ..... Sept. 22
Nitrogen, Turf Nutrition by William E. Knoop (fa) ..... Feb. 14
North Carolina, Applicator Use Laws, Part II (fa) ..... Nov. 10
North Dakota, Applicator Use Laws, Part II (fa) ..... Nov. 10
Nozzles and Spray Systems by Donald R. Weber (fa) ..... Jan. 10
Nugget, The Search for Shade Tolerant Turf (ns) ..... Feb. 19

O

Occupational Safety and Health Act, Bucket Safety (ed) ..... Aug. 6
Occupational Safety and Health Act Explained . . . ISTC 48th Annual (cr) ..... Oct. 18
Occupational Safety and Health Act of 1970 (ed) ..... Jan. 4
Ohio, Applicator Use Laws, Part II (fa) ..... Nov. 10
Ohio Turfgrass Conference, Fifth Annual Show and Tell (cr) ..... Jan. 24
Oklahoma, Applicator Use Laws, Part II (fa) ..... Nov. 10
Oregon, Applicator Use Laws, Part II (fa) ..... Nov. 11
Organizations, A Voice United (ed) ..... Oct. 4
Ornamentals, Winter-Hardy, The Key Is Year-Round Fertility (fa) ..... Apr. 26

P-Q

Pennfine, A Ryegrass That Cuts Clean (fa) ..... Nov. 12
Pennsylvania, Applicator Use Laws, Part II (fa) ..... Nov. 11
Pest Control, Turf and the Environment (fa) ..... Feb. 28
Pesticide Control Bill, Environmental (ed) ..... Mar. 8
Pesticide, Federal Environmental Control Act (ns) ..... Nov. 7
Pesticide Future Is Brighter, The, by Cecil F. Kerr (ed) ..... Mar. 10
Pesticide Use and Applicator Laws, Part I (fa) ..... Oct. 8
Pesticide Use and Applicator Laws, Part I (fa) ..... Nov. 9
Phosphorus, Turf Nutrition by William E. Knoop (fa) ..... Feb. 14
(Plastic) Nozzles and Spray Systems by Donald R. Weber (fa) ..... Jan. 10
Potassium, Turf Nutrition, by William E. Knoop (fa) ..... Feb. 14
Power Saw Safety by Hank Harvey, Jr. (fa) ..... Oct. 11
Power Saws In Trees by Blair E. Caplinger (fa) ..... Aug. 18
Power Saws, Why They Fail, and How to Avoid Trouble by Hank Harvey, Jr. ..... Sept. 16
Prognosis for the Wounded Tree by Dan Neely ..... Aug. 16

Issue Pg.

Programmed Turf Disease Control by Robert T. Miller (fa) ..... Feb. 16
Public Relations of Public Spraying, The by Jim Hansen (fa) ..... May 12
Public View, The, Rights-of-Way Maintenance — The Future by Roland C. Clement (fa) ..... June 13
Puerto Rico, Applicator Use Laws, Part II (fa) ..... Nov. 36

R

Research and Control Program, Florida's $2.8 Million Aquatic Plant by Dr. Alva P. Burkhalter (fa) ..... July 20
Rhode Island, Applicator Use Laws, Part II (fa) ..... Nov. 11
Rights-of-Way Maintenance — The Future, The Ecologist's View by Dr. Donald A. Spencer (fa) ..... June 10
Rights-of-Way Maintenance — The Future, The Public View by Roland C. Clement (fa) ..... June 13
Rights-of-Way Maintenance — The Future, The Utility View by Gordon Mundrane (fa) ..... June 12
Ryegrass, A, That Cuts Clean (fa) ..... Nov. 12
Ryegrass Breeding, Fluorescence and by Dr. C. Reed Funk (fa) ..... May 28
Ryegrass Certification, Fluorescence In by E. E. Hardin (fa) ..... May 28
Ryegrass Recommendations, Fluorescence As Related to by Dr. Henry W. Indyk (fa) ..... May 14
Ryegrass Species, Ultraviolet Light Helps Decode by Richard H. Bailey, Dr. Henry W. Indyk, Dr. C. Reed Funk, E. E. Martin and C. R. Edwards ..... May 14

S

Safety Abuses (ed) ..... July 6
Safety and Health Act of 1970, On the (ed) ..... Jan. 4
(Safety), 18 Steps to Safe Tree Climbing by Larry Holkenborg (fa) ..... Aug. 20
Safety of Turf — Natural or Synthetic by John H. Hall (fa) ..... Oct. 40
Safety, Power Saw by Hank Harvey, Jr. (fa) ..... Oct. 11
Saw, Chain, How to Select A Pro-Grade by Hank Harvey, Jr. (fa) ..... Aug. 14
Saws, Power, In Trees by Blair E. Caplinger (fa) ..... Aug. 18
Saws, Power, Safety by Hank Harvey, Jr. (fa) ..... Oct. 11
Saws, Power, Why They Fail — And How to Avoid Trouble by Hank Harvey, Jr. (fa) ..... Sept. 16
Scheetz, Conrad L., New GCSAA Director (ns) ..... Nov. 26
Search for Shade Tolerant Turf, The (ns) ..... Feb. 19
(Seed), Bullish On Baron by Peter Loft and John Morrissey (ns) ..... Feb. 25
(Seed), The Search for Shade Tolerant Turf (ns) ..... Feb. 19
(Seed), Ultraviolet Light Helps Decode Ryegrass Species by Richard H. Bailey, Dr. Henry W. Indyk, Dr. C. Reed Funk, E. E. Hardin and C. R. Edwards (fa) ..... May 14
Selling A Tree Program to the City by William T. Bell (fa) ..... Aug. 23
Slow Release Herbicides, A New View in Aquatic Weed Control by N. F. Cardarelli (fa) ..... May 16
(Sod), Bullish On Baron by Peter Loft and John Morrissey (ns) ..... Feb. 25
(Sod), Chicken Feed from Clippings (ns) ..... May 56
Sod, Consider Thin Cut (fa) ..... Feb. 51
Sod for A Mobile Home Estate (fa) ..... Dec. 16
(Sod), Management Factors Affecting Sod Heating (fa) ..... Mar. 44
Sod Producers Association, American, Stages California Sod Blast (cr) ..... Apr. 53
Sod Producers, Marketing Order Concept A Necessity For by Tony Tashnick (fa) ..... Nov. 30
Sod Producer's Two Goals, A, by Richard E. Schmidt (fa) ..... Jan. 31
Sod, Rolled or Palletized, Pros and Cons of by Robert Hawkins (fa) ..... July 44
Sod Terms, Directory of (fa) ..... June 43
Soil Fumigant Aids Organic Compost, Fertilizer from Animal Wastes (fa) ..... Sept. 15
South Carolina, Applicator Use Laws, Part II (fa) ..... Nov. 11
South Dakota, Applicator Use Laws, Part II (fa) ..... Nov. 11
Southern Weed Science Society Report, Silver Anniversary (cr) ..... Mar. 30
(Sprayer), Directa Spra — New Compact Sprayer, How We Reduced Drift With Aquatic Herbicides by Vernon Meyers (fa) ..... July 16
(Spraying) Accutrol — Industry Unites Chemicals and Air (fa) ..... Apr. 18
Spraying, The Public Relations of Public by Jim Hansen (fa) ..... May 12
Spray Systems, Nozzles and by Donald R. Weber (fa) ..... Jan. 10
(Steel, Stainless and Hardened) Nozzles and Spray Systems by Donald R. Weber (fa) ..... Jan. 10
Sulfur for Turfgrass by Dr. Fred V. Grau (ns) ..... Feb. 22
Sullivan, Bill, "Vegetation Maintenance" ..... Dec. 21
Survey, The Hat Trick (ed) ..... May 8

T

Tandex, Herbicide (ns) ..... Sept. 40
Temperature, Low, Turfgrass Kill by Dr. James B. Beard (fa) ..... Nov. 14
Tennessee, Applicator Use Laws, Part II (fa) ..... Nov. 11
Texas, Applicator Use Laws, Part II (fa) ..... Nov. 11
They Tip'em to Test'em (fa) ..... Dec. 20
Tidewater and Metropolitan Shade Tree Conferences Discuss Benlate Fungicide (cr) ..... Dec. 74
(Tires), Super Duals Protect Turf At Memory Gardens by Michael Lillis (fa) ..... Nov. 37
(Training, Continuous) Technique for Holding Employees (fs) ..... Jan. 28
(Tree Care), 18 Steps to Safe Tree Climbing by Larry Holkenborg (fa) ..... Aug. 20
(Tree Care), How to Select A Pro-Grade Chain Saw by Hank Harvey (fa) ..... Aug. 14
Tree Care, On The Job In A Bucket, Hoosier Arborist Tells How (fa) ..... Aug. 29
Tree Program, Selling A, to the City by William T. Bell (fa) ..... Aug. 23
(Trees), Dutch Elm Disease, One Step Closer to A Cure (fa) ..... Apr. 13

Issue Pg.

Tree Selection, Match to Use Area by William H. Collins (fa) ..... Jan. 20
(Trees) International Shade Tree Conference Report, 48th Annual (cr) ..... Oct. 18
(Trees), Lab Seeks Solutions to Tree Problems by Dr. Charles L. Wilson (fa) ..... Feb. 44
Trees, Outdoor, for Indoor Use (fa) ..... Nov. 20
Trees, Power Saws In by Blair E. Caplinger (fa) ..... Aug. 18
Tree Transplants, Mature, Instant Shade In Landscape Design by Ross Barnekow (fa) ..... Oct. 16
Tree, Wounded, Prognosis for the by Dan Neeley (fa) ..... Aug. 16
(Tungsten Carbide) Nozzles and Spray Systems by Donald R. Weber (fa) ..... Jan. 10
Turf Disease Control, Programmed by Robert T. Miller (fa) ..... Feb. 16
(Turfgrass), A Ryegrass That Cuts Clean (fa) ..... Nov. 12
Turfgrass Conference and Show, 43rd International (GCSAA) (cr) ..... Apr. 23
Turfgrass Ice Rinks (ns) ..... Nov. 29
Turfgrass, Low Temperature Kill by James B. Beard (fa) ..... Nov. 14
(Turfgrass), Management Factors Affecting Sod Heating (fa) ..... Mar. 44
(Turfgrass), Ohio Conference, Fifth Annual Show and Tell (cr) ..... Jan. 24
Turfgrass Retardation With Chemicals by D. M. Elkins (fa) ..... May 18
Turfgrass, Sulfur for by Dr. Fred V. Grau (ns) ..... Feb. 22
Turf Nutrition by William E. Knoop (fa) ..... Feb. 14
Turf Pest Control and The Environment (fa) ..... Feb. 28
Turf, Safety of — Natural or Synthetic by John H. Hall (fa) ..... Oct. 40
Turf, Super Duals Protect, At Memory Gardens, by Michael Lillis (fa) ..... Nov. 37
Turf, The Search for Shade Tolerant (ns) ..... Feb. 19
Turf, You Can't Gamble With, Even In Las Vegas (ns) ..... July 18
Turf, Zoysia Grass, Mel Anderson's Bold Experiment (fa) ..... Apr. 28

U

Ultraviolet Light Helps Decode Ryegrass Species by Richard H. Bailey, Dr. Henry W. Indyk, Dr. C. Reed Funk, E. E. Hardin and C. R. Edwards (fa) ..... May 14
Utah, Applicator Use Laws, Part II (fa) ..... Nov. 36
Utility View, The, Rights-of-Way Maintenance — The Future by Gordon Mundrane (fa) ..... June 12

V

Vegetation Maintenance (fa) ..... Dec. 12
Vermont, Applicator Use Laws, Part II (fa) ..... Nov. 36
Verticillum, Lab Seeks Solutions to Tree Problems by Dr. Charles L. Wilson (fa) ..... Feb. 44
Virginia, Applicator Use Laws, Part II (fa) ..... Nov. 36
Virgin Island, Applicator Use Laws, Part II (fa) ..... Nov. 36

W

Washington, Applicator Use Laws, Part II (fa) ..... Nov. 36
Water's Complex Environment, A New Dimension to — Modern Biocides by Dr. Charles R. Walker (fa) ..... July 14
Weed Control, Aquatic Weed History by Julian J. Raynes (fa) ..... July 12
Weed Control, Chemical, Cuts Labor Costs In Half (fa) ..... Mar. 19
Weed Control, Chem-Trol, A Business With A Future (fa) ..... Sept. 20
Weed Control, Effect of, On The Environment by W. A. Harvey ..... Jan. 14
(Weed Control), Even In Las Vegas . . . You Can't Gamble With Turf (ns) ..... July 18
(Weed Control Specialist), Southern Weed Science Society Report, Silver Anniversary (cr) ..... Mar. 30
Weed Control, Victorious War on Brush Control (ns) ..... Sept. 24
Weed Control Western Style (fa) ..... Sept. 11
Weed Science, Industry's Role In by Dr. Glenn C. Klingman (fa) ..... Mar. 22
Weed Science Society, Southern, Report, Silver Anniversary (cr) ..... Mar. 30
West Virginia, Applicator Use Laws, Part II (fa) ..... Nov. 36
What A Golf Course Should Be by Richard M. Phelps (fa) ..... June 16
Winter-Hardy Ornamentals, The Key is Year-Round Fertility (fa) ..... Apr. 26
Wisconsin, Applicator Use Laws, Part II (fa) ..... Nov. 36
Wyoming, Applicator Use Laws, Part II (fa) ..... Nov. 36

X-Y-Z

Zoysia Grass, Mel Anderson's Bold Experiment (fa) ..... Apr. 28

AUTHORS

Bailey, Richard H., "Ultraviolet Light Helps Decode Ryegrass Species" ..... May 14
Barnekow, Ross, "Mature Tree Transplants" ..... Oct. 16
Beard, Dr. James B., "Low Temperature Turfgrass Kill" ..... Nov. 14
Bell, William T., "Selling A Tree Program to the City" ..... Aug. 23
Burkhalter, Dr. Alva P., "Florida's $2.8 Million Aquatic Plant Research and Control Program ..... July 20
Caplinger, Blair, E., "Power Saws In Trees" ..... Aug. 18
Cardarelli, N. F., "Slow Release Herbicides, A New View In Aquatic Weed Control" ..... May 16
Clement, Roland C., "The Public View, Rights-of-Way Maintenance — The Future" ..... June 13
Collins, William H., "Match Tree Selection to Use Area" ..... Jan. 20
Eckhoff, Harry C., "Golf Course Development Outlook — 1972" ..... Feb. 18
Edwards, C. R., "Fluorescence and the Federal Seed Act" ..... May 52
Elkins, D. M. "Turfgrass Retardation With Chemicals" ..... May 18
Funk, Dr. C. Reed, "Fluorescence and Ryegrass Breeding" ..... May 28
Grau, Dr. Fred V., "Sulfur for Turfgrass" ..... Feb. 22
Hansen, Jim, "Tne Public Relations of Public Spraying" ..... May 12

	Issue Pg.
Hardin, E. E., "Fluorescence In Ryegrass Certification"	May 28
Harvey, Hank F., Jr., "How to Select A Pro-Grade Chain Saw," "Power Saw Safety," "Why Power Saws Fail — and How to Avoid Trouble"	Sept. 16
Harvey, W. A., "Effects of Weed Control On the Environment"	Jan. 14
Hawkins, Robert, "Pros and Cons of Rolled or Palletized Sod	July 44
Hiltibran, Dr. Robert C., "Aquatic Herbicides"	July 26
Holbrook, C. C., "Herbicides Keep Jacksonville Drainage Ditches Open"	Mar. 16
Holkenborg, Larry, "18 Steps to Safe Tree Climbing"	Aug. 20
Indyk, Dr. Henry W., "Fluorescence As Related to Ryegrass Recommendations"	May 14
Kerr, Cecil F., "The Pesticide Future Is Brighter"	Mar. 10
Klingman, Dr. Glenn C., "Industry's Role In Weed Science"	Mar. 22
Knoop, William E., "Turf Nutrition"	Feb. 14
Lillis, Michael, "Super Duals Protect Turf At Memory Gardens"	Nov. 37
Loft, Peter, "Bullish On Baron" With John Morrissey	Feb. 25
Meyers, Vernon, "How We Reduced Drift With Aquatic Herbicides"	July 16
Miller, Robert T., "Programmed Turf Disease Control"	Feb. 16
Morrissey, John, "Bullish On Baron" with Peter Loft	Feb. 25
Neeley, Dan, "Prognosis for the Wounded Tree"	Aug. 16
Mundrane, Gordon, "The Utility View, Rights-of-Way Maintenance — The Future" With Dr. Donald A. Spencer	June 12
Phelps, Richard M., "What A Golf Course Should Be"	June 16
Raynes, Julian J., "Aquatic Weed History"	July 12
Schmidt, Richard E., "A Sod Producer's Two Goals"	Jan. 31
Spencer, Dr. Donald A., "The Ecologist's View, Rights-of-Way Maintenance — The Future" with Gordon Mundrane	June 10
Tashnick, Tony, "Marketing Order Concept A Necessity for Sod Producers"	Nov. 30
Walker, Dr. Charles R., "Modern Biocides — A New Dimension to Water's Complex Environment"	July 14
Weber, Donald R., "Nozzles and Spray Systems"	Jan. 10
Wilson, Dr. Charles L., "Lab Seeks Solutions to Tree Problems"	Feb. 44

Tidewater And Metropolitan Shade Tree Conferences Discuss Benlate Fungicide

Program speakers included Walter E. Money, president, Guardian Tree Experts, (l) Dr. T. C. Ryker, product development manager, Du Pont Company, (center); and Dr. R. J. Stipes, plant pathologist, Virginia Polytechnic Institute, (r).

Mid-Atlantic commercial and municipal arborists, plus other interested shade tree people, participated in two conferences during November. The Tidewater Conference met at the Norfolk, Virginia, Botanical Gardens, while the Metropolitan Meeting was held in Arlington, Virginia.

At both metings, Dr. R. J. Stipes, plant pathologist, Virginia Polytechnic Institute, and Dr. T. C. Ryker, product development manager, E. I. DuPont de Nemours & Co. Inc., discussed the use of Benlate benomyl fungicide as an aid in the prevention and control of Dutch Elm Disease.

Dr. Stipes related his studies on soil injection of Benlate, which conclude that more field studies might point to an additional promising approach to systemic disease control.

Dr. Ryker discussed current labeling of Benlate for elms, together with the several trunk pressure injection procedures now under study. He emphasized that the only trunk injection method presently approved by the Environmental Protection Agency is the Mauget-type cup injection system. This system was demonstrated by Walter E. Money, President, Guardian Tree Experts, Inc., Rockville, Maryland.

Since data on Dutch Elm Disease control can only be evaluated each Spring from the previous season's work, Dr. Ryker reasons that it is unlikely that any other system will be available soon.

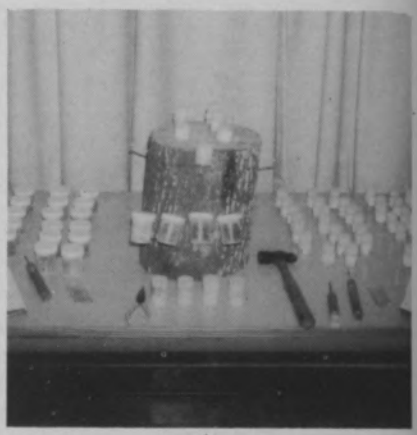
A question regarding small bark wounds resulting from trunk injections was posed to Dr. Alex Shigo, Chief Plant Pathologist, Forestry Experiment Station, Durham, New Hampshire. Dr. Shigo was speaking at the Metropolitan Conference on his extensive work in effects of wounding on trees.

"While I have not worked on that question specifically," he said, "it appears that they would be somewhat like the wounds on sugar maples for syrup production. Sugar maples continue to do well and overcome these wounds. I feel that since the Mauget wounds are minute in comparison, there should be no problem."

Plant pathologists from the University of Wisconsin had previously reported in their "Benlate Seminar Booklet" that their extensive work with injection tubes on elms has resulted in no serious injury to date.

Persons interested in becoming dealers of Mauget products in the Washington, D. C. area are asked to attend a dealer's meeting to be held at the Marriott Twin Bridges Motor Hotel on Jan. 17 (adjacent to Washington National Airport at U.S. Route 1 and I-95).

Walt Money shows how easy it is to insert the Mauget cup into a tree trunk.



Injection equipment needed to combat Dutch Elm Disease.

Green Industry Associations

New Officers New Programs New Action Reports

AMERICAN ASSOCIATION OF NURSERYMEN, INC.

230 Southern Building, 15th & H Streets, N.W.
Washington, D.C. 20005
Tel. (202) 737-4060

Robert F. Lederer, Executive Vice President

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Annual Meeting: July 14-18, 1973, Radisson Hotel, Minneapolis, Minnesota.

Highlights of '72: Membership reached 1980 with the number of new member applications received reaching a new high.

In the area of legislation, AAN has presented testimony to both sides of the Hill on agricultural appropriations, Forest Service appropriations, wage-hour legislation, pesticide legislation, Washington Youth Gardens appropriations, highway legislation, and others. Among the outstanding victories for ANN were: obtained exemption from OSHA for growers; helped block efforts to amend wage-hour law to raise minimum wage and remove seasonal overtime exemptions for nursery employees; was instrumental in regaining exemption for nursery stock from wage-price controls under Phase II at retail and wholesale levels after the government reversed their initial decision and declared nursery stock, along with many other agricultural products, covered under wage-price controls after the first sale. New face on the staff — Leo Donahue, retired Marine officer, who replaced Richard Turney as legislative liaison.

Other activities: AAN conducted highly successful and well attended Management Seminar at Syracuse University — first in 8 years. Among a long list of publications generated from the AAN offices in 1972 were: a comprehensive "Direct Mail Advertising Summary"; a new monthly news bulletin to supplement the AAN Newsletter; a consumer-oriented poster-pamphlet, "More Pleasure From Your Plantings;" a Washington Youth Gardens brochure; 1972 edition of annual "Guide to Effecive Advertising;" and "The Case for the Guilty Garden," an industry statement counteracting the misconceptions and misrepresentations about the supposed danger from "poisonous plants" — an authoritative document sent to members and key opinion makers all over the country.

1972 Washington Convention highlights include the introduction of 1972 Yearbook of Agriculture, "Landscape for Living," by Secretary of Agriculture Earl L. Butz, and a reorganization of AAN Board of Governors, the governing body of the Association.

1972 saw phenomenal growth for all umbrella groups — National Landscape Association, Wholesale Nursery Growers of America, National Association of Plant Patent Owners, Horticultural Research Institute. HRI published the valuable "Uniform Chart of Accounts" and 1971 Operating Cost Study, and research has begun on, among other things, a project which will attempt to show that man is "genetically programmed" to require an environment of green, growing things. A new association was formed designed to meet the needs of the retail segment of the industry. Called Garden Centers of America, member services are scheduled to begin January 1, 1973.

Green Survival continues to grow with Canada, England, Germany, and Holland adopting similar programs. A Green Survival Theme Song has been created and plans are being made for a Green Survival film.

Perhaps the most exciting program developed this year is the Nursery Industry Cooperative Advertising Program, a national marketing program designed to provide growers and retailers with an opportunity to accomplish effective consumer advertising on a national scale at a realistic cost. An incisive NICAP advertising manual, "Partners in Profit," is being sent to all AAN members for their use.

Program Plans For '73 and Forecast: In brief, AAN will continue its major programming; NICAP will be perfected and new information distributed for the Manual; Landscape Awards Program will be stepped up; more Management Seminars planned; expansion of member services to AAN as well as to all umbrella groups; and aggressive activity by the Garden Centers of America. The AAN will intensify its legislative efforts because it must . . . in the face of increasing Federal intervention in business and the growing consumer movement. Also, a closer coordination is planned with the Forest Service and Agricultural Research Service in the area of agricultural research. All in all, the future and its potential look quite

good for the industry, the AAN and its related association groups.

AMERICAN SOCIETY OF CONSULTING ARBORISTS

12 Lakeview Avenue, Milltown, New Jersey 08850
Tel. (201) 821-8948

Dr. Spencer H. Davis, Jr., Executive Director.

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Annual Meeting: Feb. 15-17, Mountain Shadows Resort, Scottsdale, Arizona.

Highlights of '72: The program emphasized a study of tree evaluations as related to home, building and land appraisals and to land evaluations and eminent domain as presented by members of the American Institute of Real Estate Appraisers at the annual meeting. The Case History Committee completed the Field Report Form which is now available to members, and also enlarged its case history report filings. Members received current technical information on the effect of natural gas on trees and vegetation — it does kill trees! Advertising in national journals and trade papers was increased.

Program for '73: (1) Annual meeting will entertain papers and discussions by members of the American Institute of Landscape Architects, the Associated Landscape Contractors of America, the Society of American Foresters, and the Association of Consulting Foresters. Discussions will attempt to correlate activities of the ASCA with these other associations. (2) Information via speakers at the annual meetings and mailings to members will attempt to enhance their abilities as court witnesses involving cases dealing with trees.

AMERICAN SOD PRODUCERS ASSOCIATION

College of Agriculture & Environmental Science
Box 231
New Brunswick, New Jersey 08903
Tel. (201) 247-1766 Extension 1453

Dr. Henry W. Indyk, Executive Secretary

Officers and Directors for 1972-73: Jack Kidwell, pres., J. L. Kidwell Landscape Corp., Culpeper, Va.; Dale Habenicht, vice-pres., H & E Sod Nursery, Inc., Tinley Park, Ill.; John Nunes, sec., Nunes Turfgrass Nurseries, Inc., Patterson, Calif.; Charles Davis, treas., Wharton Turf-Grass, Inc., Wharton, Texas; and the following directors, Tobias Grether, Cal-Turf, Inc., Camarillo, Calif.; George Stewart, Karandrew Turf Farms, Inc., Suffield, Conn.; William Latta, Princeton Turf of Kansas City, Kansas City, Mo.; Ted Bosgraof, Blue Grass Sod Farms, Inc., Hudsonville, Mich.; and Gerry Brouwer, Brouwer Sod Farms Ltd., Keswick, Ontario, Canada.

Annual Meeting: July 16-19, Holiday Inn, Denver, Colorado. Equipment Field Day at Richlawn Turf Farms — Host organization will be Rocky Mountain Sod Growers Association.

Highlights of '72: An outstanding summer meeting in Toronto, Canada hosted by the Nursery Sod Growers of Ontario. Exceptionally well organized and interesting tours of the sod industry in Ontario were conducted. Activities were concluded with a half-day field demonstration of sod harvesting equipment. National Guideline Specifications For Sodding were printed and received wide-scale distribution in response to requests from a wide range of turfgrass interests. An accounting system for sod producers was developed and will be made available.

Program for '73: Winter Meeting — February 18-24, incl. in Hawaii. Program will consist of a seminar on the topic of financial management to be presented by a recognized authority of finances. In addition, several organized tours are scheduled.

Forecast for '73: A strong demand for sod should continue throughout '73 if the encouraging economic forecasts come true. Increasing supplies of sod will adequately satisfy the strong demand. Price should remain about the same and possibly tend to be depressed with the development of surpluses. This will be a definite unhealthy development in the industry. With rising costs of production which are not being reflected in the sale price, the net return margin becomes dangerously low. It will become increasing important to become more efficient in production. Furthermore, it is imperative for an individual sod operation to survive to adopt a record keeping and accounting system that will provide a financial analysis of the operation. Better business management presently is a major need in the sod industry. The development of an accounting system for sod producers by the ASPA should prove to be an invaluable contribution of the Association to the future of the sod industry.

GOLF COURSE SUPERINTENDENTS ASSOCIATION OF AMERICA

3158 Des Plaines Ave., Des Plaines, Ill. 60018
Tel. (312) 824-6147

Conrad L. Scheetz, Executive Director

Officers and Directors for '72: Robert V. Mitchell, pres.; Portage CC, Akron, Ohio Clifford A. Wagoner, vice-pres., Del Rio G & CC, Modesto, Calif.; Charles G. Baskin, sec-treas, CC of Waterbury, Waterbury, Conn.; Richard C. Blake, pres-emeritus, Mt. Pleasant CC, Boylston, Mass.; Palmer Maples, director, The Standard Club, Atlanta, Ga.; Richard W. Malpass, director, Riverside G & CC, Portland, Ore.; Paul E. Mechling, director, Sylvania CC, Sylvania, Ohio; Theodore W. Woehrle, director, Oakland Hill CC, Birmingham, Mich.; Carleton E. Gipson, director, Elkins Lake GC, Conroe, Tex. Officers and directors will change in January 1973.

Annual Meeting: Jan. 7-12, 1973, John B. Hynes

Civic Auditorum and Sheraton-Boston Hotel, Boston, Mass.

Highlights of '72: Four seminars were conducted. In addition, attendance at the annual International Turfgrass Conference and Show broke previous records. A new executive director was named to fill the vacancy left by Ben J. Chlevin. A decision was made to move the executive headquarters of the association to Lawrence, Kansas in the summer of 1973.

Program for '73: The second series of seminars will be instituted in the spring. This series will be on pesticides. The third series of seminars will involve the Operational Safety and Health Act of 1970.

Forecast for '73: The immediate goal is to integrate the forces at hand and organize the association under the management of the new executive director. Once a solid foundation is formed, the association will initiate new programs which include a membership drive, insurance program and a continuing educational program.

HYACINTH CONTROL SOCIETY, INC.

P. O. Box 508, Floral City, Fla. 32636

T. Wayne Miller, Jr., Secretary

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Annual Meeeting: July 15-18, Monteleon, Hotel, New Oreleans, La.

Highlights of '72: The name of the society did not change. The membership voted for a possible name change by mail ballot, but it was defeated at the annual business metting. Release of a water hyacinth weevil in August was the first attempt to control this noxious aquatic plant with insects. The weevil is native to South America and is host specific. The White Amur has also been released in six isolated and tightly guarded ponds in various parts of Florida. Work is continuing in physiological and microbiological investigations to bring the aquatic weeds under control. Dr. Robert D. Blackburn, USDA, Ft. Lauderdale, Fla. has identified hydrilla in a pond in Iowa, near the Mississippi River. The growth of this weed will be monitored throughout the coming year.

Program for '73: To license all persons, firms or corporations conducting aquatic plant control in public waters in the State of Florida under the new law that became effective Oct. 20, 1972.

Forecast for '73: The annual meeting will be held outside the State of Florida. This should be an excellent opportunity to witness the aquatic vegetation problems in another state. Program committee chairman, Dr. Alva Burkhalter, is planing a program for the meeting that includes progress reports in research projects and applied weed control work.

INTERNATIONAL PESTICIDE APPLICATORS ASSOCIATION, INC.

5600 SW Rosewood St., Lake Oswego, Oregon 97034

L. F. (Lew) Sefton, Executive Secretary

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Annual Meeting: August 15-18, 1973, Marriott Inn, Berkeley Marina, Berkeley, California 94710, Tel. (415) 548-7920

Highlights of '72: The transition from the only Regional Pesticide Applicator Association to the only representative National Organization is the prime accomplishment. As of this writing there are three chapters, located in Washington, Oregon and California. Organization is in progress for chapters in southern California and New York. Besides Chapter Members, there are currently Members at Large in Colorado, Florida, Idaho, Iowa, Kentucky, New Jersey, New York and Utah. Inquiries from other states, Canada and India are in the mill. This is a going concern.

In April 1972, IPAA started publishing a monthly paper, **The Professional Applicator.** This has been well received and seems a worthy vehicle for

gluing together the scattered applicators interested in themselves and their industry. A part time arrangement was made for an executive secretary. This, with the certain growth nationally, will lead to the hiring of a full time person soon. Because of the original application by IPAA for a review of the DDT issue by an advisory committee and a request for a public hearing, the end of 1972 may see the only live DDT label in the U.S. in the possession of an IPAA Associate Member, Crop King Chemical of Yakima, Wash. The original association request was filed through Crop King Crop King this past year assumed all remaining financial responsibility, a burden off our organization. This is a separate action from that of the infamous Ruckelshaus decision. The Washington Chapter has still not lost the DDT fight in its State and is seeking registration for root weevil use.

IPAA adopted an emergency action resolution in 1972. As a condition of membership, each chapter pledges mutual aid to and by its members in cases of distress due to sickness or injury. Other benefits are in the mill.

Program for '73: (1) The Convention is moved up to August to allow for a family vacation while attending. (2) It will be hosted by the new California Chapter. This shows how rapidly applicators, hungry for association, can effectively organize. (3) Continued education, and the improvement of our industry through organized effort. (4) Education of the public that the truly safe and efficient way is with the licensed professional applicator.

Goal: Our enlargement into an international association capable of promoting our programs on an ever increasing front. We must make it our business that the public is never so mistakenly brainwashed again.

Forcast for '73: The pendulum has started its return stroke. Little by little the public will learn that it is the pesticide applicator who preserves the environment for them and makes a better habitat for wildlife. International Pesticide Applicators Association, Inc. will lead the way.

INTERNATIONAL SHADE TREE CONFERENCE, INC.

3 Lincoln Square
P. O. Box 71, Urbana, Illinois 61801

Tel. (217) 328-2032

E. C. (Cal) Bundy, Executive Secretary

Officers and Directors for '73: Dr. John A. Weidhaas, Jr., pres., Va. Poly Tech. Institute, Blacksburg, Va.; F. Lewis Dinsmore, pres. elect, Dinsmore Tree Service, St. Louis, Mo.; John Z. Duling, vice-pres., Duling Tree Expert Co., Muncie, Ind.; Dr. E. B. Himelick, exec. director, Ill. Natural History Survey, Urbana, Ill.; Dr. Dan Neely, editor, Ill. Natural History Surver, Urbana, Ill.

Annual Meeting: August 12-16, 1973, Sheraton Boston Hotel, Boston, Mass. Regional Chapter annual meetings: Ohio Chapter, January 21-25, Sheraton-Columbus Hotel, Columbus, Ohio; Penn-Del Chapter, January 25-26, Marriott Motel, Philadelphia, Pa.; Midwestern Chapter, February 6-8, Holiday Inn, 1926 W. Wisconsin Ave., Milwaukee, Wisc.; Southern Chapter, February 25-28, Sheraton Motor Inn, Fredericksburg, Va.; Western Chapter, June 17-20, Hotel Utah, Salt Lake City, Utah; Canada, April 5-6, Place Bonaventure, Montreal,

Highlights of 1972: Membership increase is continuing. I.S.T.C. processed more new individual members during 1972 than any previous year. Sustaining memberships of commercial firms and related associations is on the upswing. Southern California members staged a highly successful 1972 annual convention last August at Newport Beach, Calif. The attendance of 764 delegates consisted of members from all parts of the United States and Canada. The unique outdoor exhibitor area contained a record number of fifty commercial exhibits. Submitted the fourth and final research grant payment of $4000 to the University of Wisconsin in support of the project titled "Effects of Transplanting on Physiological Responses and Growth of Shade Trees," under the direction of Dr. T. T. Kozlowski. The revised publication "A Standard Municipal Tree Ordinance" was printed and released. Requests have almost depleted the initial printing.

Program for '73: Will continue to encourage the establishment of an annual observance of National Arbor Day by the Federal government. Will select a future research project at an educational institution. Recipient will receive the I.S.T.C. Research Assistantship Grant. Will complete the revised edition of our publication entitled "Transplanting of Trees and Shrubs." Will begin making plans to observe the 50th anniversary of the I.S.T.C. at the 1974 annual convention in Atlanta, Ga. Will continue the dessemination of knowledge in the science and art of growing and maintaining shade and ornamental trees via our monthly and annual publications, and our regional and international meetings.

Forecast for '73: Few laws have produced as many aftershocks as the Occupational Safety and Health Act of 1970. Some think that it places too much responsibility on the employer and does not take into consideration the employee attitude. This Act will continue to have a great effect on the industry during 1973. The Urban Forestry Program of the U.S. Forest Service, when fully implemented and directed towards shade and ornamental tree problems of the cities, towns, villages and countries, will initiate more work for the qualified arborists. The professional arborist will benefit from increased research work and educational activity at the Federal and state levels.

NATIONAL ARBORIST ASSOCIATION

1750 Old Meadow Road
McLean, Virginia 22101
Tel. (703) 893-7347
Robert C. LaGasse, Executive Secretary

Officers and Directors for 1972: Robert Felix, President, Harder Services, Inc., Hempstead, New York; John A. Shullenbarger, 1st Vice-President, Gustin Gardens Tree Service, Inc., Gaithersburg, Maryland; W. Roland Shannon, 2nd Vice-President, Shannon Tree Company, Milford, Pennsylvania; Paul Ramsey, Secretary, N. G. Gilbert

(continued on page 86)

EDITORIAL *(from page 9)*

in developing noise abatement programs. This may be fine for big industry, but for a fewer than 15 man operation the services of this type of person is not economic.

The study also suggests operating only one piece of noise making equipment at a time, substituting belt drives for gears, dampening vibration, installing flexible mounts for motors, hoses or couplings, isolating the noise source and a host of other controls. If this fails, as it will most likely will in the case of chain saws and chippers, then the last alternative is to establish administrative controls. These would arrange work schedules for employees, rotate employees around the noise source, divide the work among several workers, and shut equipment down when the upper limit of duration for a high noise level is reached.

We submit that now is the time to be acting on this proposed study. The evidence in favor of adopting it is supported by data that leaves little to be questioned. We predict adoption of the study by OSHA. A word to the wise is sufficient.

Officers who will serve the Central Plains Turfgrass Foundation for the coming year are Larry Runyon, Kansas City, Mo., vice president (at left); Dr. Ray Keen, Kansas State University, secretary-treasurer (standing); and Edmer Easley, Wichita, president. Both Keen and Easley were reelected at the annual meeting, which was held in conjunction with the annual KSU turfgrass conference.

insect report

INSECTS OF ORNAMENTALS

CONIFER APHID
(Cinara canadensis)

VIRGINIA: Taken on juniper in Montgomery County July 6, 1972. This is a new State record

CRAPEMYRTLE APHID
(Tinocallis kahawaluokalani)

MARYLAND: Very heavy and injurious to plant at Baltimore. Population included males, oviparous females, new eggs and viviparous females. Sexual forms rare.

CERAMBYCID BEETLE
(Leiopus variegatus)

NEW JERSEY: All stages very heavy under bark of large mimosa tree on property in Haddonfield, Camden County in June 1972. Mimosa so badly weakened by several years of frequent defoliation by *Homadaula anisocentra* (mimosa webworm) that tree was cut down. *L. variegatus* found when bark stripped from tree. This is a new State record. Larvae are known to occur in many varieties of hardwood. It is not known if this cerambycid has been found in mimosa previously.

TREE INSECTS

WHITE PINE APHID
(Cinara strobi)

SOUTH CAROLINA: Populations increased in white pine plantations in Piedmont area.

ELM LEAF BEETLE
(Pyrrhalta luteola)

NEW MEXICO: Damage heavy to Siberian elms at Farmington, San Juan County.

SOUTHERN PINE BEETLE
(Dendroctonus frontalis)

NORTH CAROLINA: Increased over Tusquittee Ranger District in Cherokee and Clay Counties. Population expanding rapidly. Survey revealed 60+ newspot infestations. Also problem in Randolph, Surry, Davie, Davidson, and Stanley Counties. ALABAMA: Established infestation killed 100+ Virginia pines along main highway near top of Cheaha Mountain State Park in Cleburne County. Recently emerged adults seen.

VARIABLE OAKLEAF CATERPILLAR
(Heterocampa manteo)

OKLAHOMA: Heavy infestation on oaks in Bryan County declined. Fully grown larvae left trees in Payne County. ARKANSAS: Specimens submitted from Benton County. Much lighter in northwest area than farther south. Attacked by diseases and parasites in most areas. WEST VIRGINIA: Larval damage heavy on about 300 acres of scattered red and black oaks in Hardy County.

TORTRICID MOTH
(Archips semiferanus)

PENNSYLVANIA: Outbreak of past 6 years declining. Defoliation, over 1 million acres previous 2 years, decreased to 610,000 acres in 1972 Timber loss heaviest in State for many decades. Entire forests killed over large areas of Clearfield, Centre, Clinton, and Lycoming Counties.

OBSCURE SCALE
(Melanaspis obscura)

KANSAS: Heavy on bur oaks near Wichita, Sedgwick County. Overwintering nymphs averaged 400+ per square inch, many twigs and branches dead.

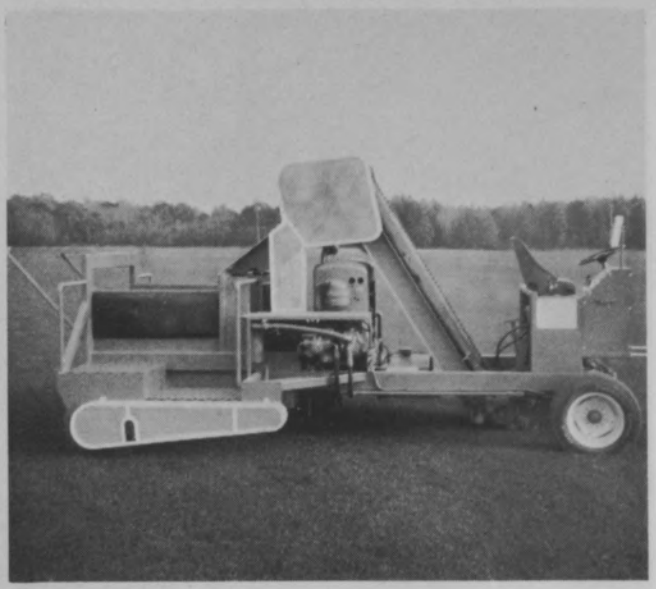
PINE NEEDLE SHEATMINER
(Zelleria haimbachi)

CALIFORNIA: Scattered infestations damaged ponderosa pines on Klamath National Forest in Humbug drainage area. Some of better plantations affected. Active in Shasta-Trinity National Forest. Infestations to be checked in spring 1973 after new growth appears.

BENEFICIAL INSECTS

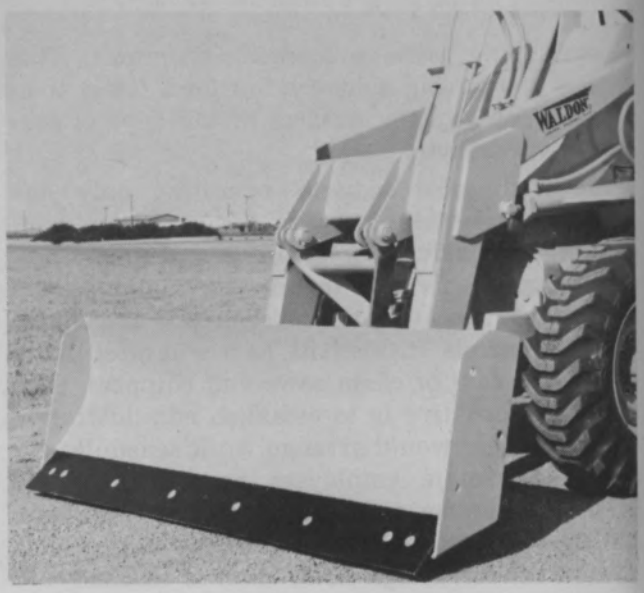
AN ENCYRTID WASP
(Ooencyrtus kuwanai)

RHODE ISLAND: Released 60,000 against *Porthetria dispar* (gypsy moth) eggs in Providence County October 3. OHIO: Total of 10,000 specimens of this egg parasite of *Porthetria dispar* (gypsy moth) released in immediate area of Auglaize County where male moth previously trapped.



SOD HARVESTER: Princeton Manufacturing Co., Canal Winchester, Ohio

Model 4020 is a re-design of the former Princeton Model 180. It cuts slabs of sod 20 inches wide by 40 inches long and loads 50 yards per pallet on its self-contained forklift. This harvester is designed to produce 1500 yards of palletized sod per hour with a three man crew. Machine is powered by a 172 c.i. Ford industrial engine with full hydrostatic drive. Other features include standardized locally available parts, improved hydraulics and safety guarding. For more detaiils, circle (701) on the reply card.



BLADE EQUIPPED LOADER: Waldon, Inc., Fairview, Okla.

A three-pin front boom mount holds this six foot wide dozer blade securely to the powerful, all hydraulic, 4-wheel drive tractor. No need to angle the blade because you steer it where you want it to go with the hinged tractor chassis, which articulates and oscillates to work in extremely close quarters. This arrangement, with power steering, not only gives tight turns, but also keeps all four wheels in full traction over rough terrain, curbs, debris, etc. On the boom, the dozer blade is raised, lowered or tilted by hydraulic control from the seat. The Waldon 5000 Dozer comes with a choice of seven engines. Standard features include 4-wheel hydraulic brakes, neutral-stop safety controls, gauges to monitor all vital functions and power steering. For more details, circle (702) on the reply card.

72 INCH ROTARY CUTTER: Massey-Ferguson Inc., Des Moines, Iowa

Here's a low-cost, 72 inch rotary cutter designed for average use where a heavy-duty cutter is not needed. The MF 68 has a solid, tire carcass tailwheel as standard equipment. Brush Hopper blade holder is also standard, as if floating top link which permits the tailwheel to rise without putting additional stress on the hitch. The gearbox is shock resistant malleable iron, packed with lifetime lubricant. Side skids are 42½ inches long for added endurance. Tailwheel boom is adjustable in 1¼ inch increments. For more details, circle (703) on the reply card.

HAND-HELD CONCRETE BREAKER: Charles Machine Works, Inc., Perry, Okla.

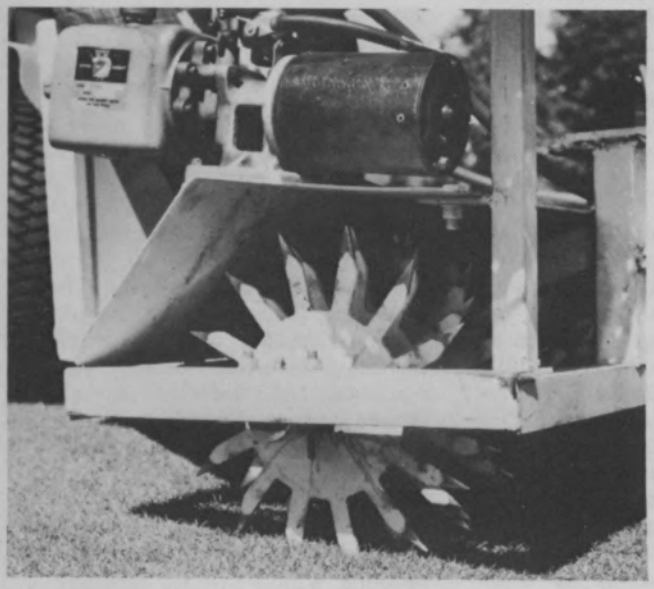
This all-hydraulic breaker eliminated the two main causes of excessive noise usually associated with jackhammers—the roaring compresser and explosive release of compressed air. Quick-couple hydraulic connections attach the tool to Ditch Witch models H12, J20, V30, R40, R60 and R65 trenchers and VP12 vibratory plow. The power input to the breaker is approximately 8 hp. The hydraulic recoil system lets the unit take the shock, not the operator. For more details, circle (704) on the reply card.

NON-METALLIC SAFETY CANS: Justrite Manufacturing Co., Chicago, Ill.

Greater overall strength, corrosion resistance, contamination resistance and puncture resistance. These are the primary advantages in a new line of non-metallic polyethylene safety containers. Included are a plastic disposal can, a one-gallon oval storage can and a 2½ gallon plastic safety can. Seamless construction provides greater strength and a container that will not leak or break. Other features include a built-in check valve and a pressure relief vent. In addition, the containers have metal flame arrestors to prevent flames from entering the cans plus a spring-loaded cap to contain and extinguish possible fires. For more details, circle (705) on the reply card.

SUPERBLO BLOWER: Vandermolen Corporation, Livingston, N. J.

This is the first application of a Wankel Rotary Piston Engine to a blower. The new 848 provides the biggest airblast available on push blowers today. The Wankel engine turns the blower at 5,000 rpms which is about 40 percent more airblast than a 4 cycle, 3600 rpm unit of comparable horsepower. Lightweight and compact, the blower's absence of vibration greatly reduces operator fatigue. For more details, circle (706) on the reply card.



LITTLE BEAVER SPIKER: Smithco Company, Wayne, Pa.

Relieve compaction fast under all turf conditions with this new addition to the Smithco family of Redheads. With a maximum depth of 2 inches, each spiker disc is individually mounted on the shaft and the entire reel, with a piking width of 48 inches, is spring-loaded to flex and turn. A hand control hydraulically raises or lowers reel. Unit is powered by a 10 hp engine with a 12 volt electric start. Other features include belt tightener clutch, friction reverse, brake and parking brake. The power head is interchangeable with other Smithco products. Turf tires and a 78 inch by 48 inch drag mat are standard equipment. For more details, circle (707) on the reply card.

60 INCH DOZER BLADE: Allis-Chalmers Corp. Outdoor and Leisure Products, Milwaukee, Wisc.

Attach this 60 inch front-mounted snow plow and dozer blade on the front of the 620 tractor and the combination will get the big jobs done in a hurry. Hydraulic action operates the blade and it is connected by quick-couple plug-ins located in the front of the tractor. The power unit is a 19½ hp air-cooled two cylinder four cycle engine specially designed for parks, estates and industrial sites. Blade is heavy-gauge steel that will take the tough jobs without buckling or straining. For more details, circle (708) on the reply card.

Hawaiian Seminar Planned By ASPA

The American Sod Producers Association is planning a winter seminar, Feb. 19-26, 1973, in Hawaii. Details as to headquarters hotel and departure via charter flights will be forthcoming shortly, according to Dr. Henry Indyk, executive secretary.

In the plans are two sessions of one-half day each on financial management. Dr. James Longstreet, chairman of the Finance and Business Administration department at the University of South Florida will head the seminar. Dr. Longstreet is a nationally recognized authority in the field of finance, Indyk states, and his presentations will be directed toward elements of finance and accounting which sod producers can use in their own financial planning.

Dr. Longstreet, Indyk further reports, is a brillant teacher and an exciting speaker. Indyk believes this will prove to be one of the ASPA's most outstanding educational programs.

Besides the seminar program, several organized tours are planned and ample time is also being set aside for personal tours.

Arrangements are being made, Indyk says, for charter flights which will leave from various points throughout the U.S.

Growers may obtain more detailed information directly from Indyk at P.O. Box 231, New Brunswick, N.J. 08903; telephone, (201) 247-1766, Extension 1453.

Midwest Turf Growers Plan OSHA Seminar

A seminar aimed at pinpointing Operational Safety and Health Act standards for sod producers is being sponsored by the Midwest Sod Growers Association.

John Latta, Princeton Turf, Kansas City, Mo., and president of the Midwest group, has announced that all sod producers, contractors, and friends, nationwide, are invited to attend.

The date is January 24, 1973, at the Airport Holiday Inn, Denver, Colorado. The seminar begins at 9:00 a.m. and ends at 4:00 p.m.

The seminar is being conducted by the law firm of Nelson, Harding, Marshetti, Leonard & Tate, a firm with offices at Denver, Lincoln, Chicago, and Los Angeles, which specializes via a labor and law section in representing management in the field of labor relations.

In preparation for the seminar, the firm has secured about 50 color slides of sod production in which OSHA requirements are a factor. Growers attending are also being invited to bring personal slides which bear on OSHA standards. These will be used in determining technical requirements to meet OSHA.

The law firm also has a booklet available on OSHA which will be included in the $35 registration seminar fee for attending the conference. Also included in this fee, Latta says, is lunch and an afternoon social hour. Chairman of the seminar is Norman LeGrande, Hendricks Sodding & Landscaping, Lincoln, Neb.

The Jan. 24 date precedes the 2-day Colorado Conference to be held at Ft. Collins Jan. 25-26.

Water Quality Report Published By EPA

The Environmental Protection Agency has published a comprehensive water quality report designed to provide rapid access to information on the effects of chemicals on fish and other aquatic organisms.

The document of over 500 pages is the result of a study sponsored by the Columbus Laboratories of Battelle, Columbus, Ohio.

The report lists several thousand substances by chemical and trade name along with the specific effects the substances produce in aquatic life. The data is based on technical literature available through 1968. Collected from nearly 1000 references, the report represents studies on water pollution ranging geographically from the Nile in the Sudan to streams in South Carolina and Florida. Extensive information is provided on pesticides and heavy metals.

The authors of the report are H. T. Kemp, J. P. Abrams, and R. C. Overbeck.

About 5000 aquatic species are included in the report with the major emphasis on fish, insects, algae and other water organisms. The study's concern was primarily with freshwater aquatic life, but information on the effect of chemicals on marine life is also included.

The data are arranged in a tabular form and include: the name of the chemical, aquatic organism affected, technique by which toxicity was determined, field location where reference study was conducted, toxicity of active ingredient, and name of researcher and date when study was completed.

In addition to listing the chemicals and organisms, the report includes sections which discuss bioassay of fish and other aquatic organisms, marine bioassay, field assessment, factors affecting chemical toxicity such as water temperature, and industrial wastes.

For copies of the report, "Effects of Chemicals on Aquatic Life," Water Quality Criteria Data Book, Volume 3, No. 18050GWV05/71, write Superintendent of Documents, Government Printing Office, Washington, D. C. 20402 and enclose $3.75 per copy.

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Turf Seminar Scheduled For 17 Cities

A "Turf Disease & Weed Seminar" sponsored by the agricultural chemicals division of Diamond Shamrock Chemical Company will be held in seventeen cities between now and the end of 1972.

The Company held four such seminars in the greater Chicago area last Spring to determine receptivity by golf course superintendents and grounds maintenance managers. Based on the success of the trial seminars, the Company has announced seventeen more seminars, and may add still others before year's end.

The one-day sessions feature a three-part program covering toxicology, fungicides and herbicides. Each topic is covered by an in-depth discussion of current turf problems, treatments, methods and consequences. A variety of products, not only Diamond Shamrock's, are also examined.

Seminars that have been scheduled include: S. Windsor, Connecticut on November 8; New Haven, Connecticut, November 9; Stow, Massachusetts, November 10; Portland, Oregon, November 13; St. Louis, Missouri, November 14; Kansas City, Missouri and Dallas, Texas on November 15; and Wichita, Kansas on November 16.

Seminars will also be held in Concord, Ohio on November 17; Minneapolis, Minnesota, November 28; Sacramento, California, December 5; Redwood City, California, December 6; Los Angeles, California, December 7; Santa Barbara, California, December 8; Denver, Colorado, December 12; and Las Vegas, Nevada, December 15.

Details about the seminars are available from Diamond Shamrock Agricultural Distributors in each location.

Texas Ag. Department Approves Use of Banvel

The Texas Department of Agriculture has approved the use of Banvel® herbicide plus 2,4-D herbicide for control of Macartney rose, according to Velsicol Chemical Corporation.

Recommended rates are 1 to 2 pounds Banvel, 1 to 2 pounds 2,4-D amine plus 1 quart Accutrol spray adjuvant per 100 gallons of water.

The heavy droplets of the Accutrol spray system help penetrate the thick brush and, because the spray is white, enable the applicator to see where he is spraying and insures the complete coverage necessary for Macartney rose control. If only one side is sprayed, for example, the other half may continue to live.

Planted as a windbreak several decades ago, Macartney rose is now taking over some of the most valuable grazing land in Texas. The density of the plant which made it an effective windbreak, also makes it one of the most difficult species to control.

With Macartney rose, it is best to wait a full year to determine the percentage of control, says Velsicol. Banvel is a slow brush killer, and it usually takes a full year to determine the amount of control obtained.

Warm Weather Speeds Sludge Decomposition

Warm temperatures greatly speed decomposition of sewage sludge applied to soil, according to Dr. Robert H. Miller, professor of agronomy at The Ohio State University. "We can now predict the amount of sludge decomposition under any temperature conditions," Miller told agronomists attending the American Society of Agronomy recently.

Although applying sewage sludge to land as a low-analysis fertilizer is not a new practice, it is currently of great interest in the United States. An ever-increasing number of cities and municipalities of various sizes have been looking at land disposal as an alternative method of sludge disposal, Miller explained. Not only is the practice less expensive than using lagoons, drying beds or incineration, it also can provide a low-cost way to renovate poor soils or strip-mined areas.

Data from recent studies have shown a relationship between the percentage of sewage sludge decomposed and the monthly average minimum and maximum temperatures. This information will be useful in predicting the decomposition of sewage sludge during different seasons and in different climates, the agronomist suggested.

At loading rates greater than 40 tons per acre of dry sludge, soil properties had little influence on sludge decomposition, Miller noted. Fine textured soils irrigated with liquid sludge may become saturated with water, which will reduce decomposition rates but in sandy soils the excess soil moisture had little influence on decomposing rates.

Temperatures used in the studies were those of Columbus, Ohio where Miller did his research.

"CUTRINE absolutely got rid of all my algae before the Greater Milwaukee Open started."

Says Bud Hooper, course superintendent, Tripoli Country Club, Milwaukee, Wis.:

"Less than a week before the GMO, my water was solid with algae. I didn't think there was a chance CUTRINE could get rid of it in time. BUT IT DID!

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industry people on the move

Ronald A. Steen, named general manager of the Light Industry Group, newly formed from four J I Case Company divisions, including Davis Manufacturing, Outdoor Power Equipment, Concrete Machinery and Vibromax.

* * *

Allan Cumps and **Bob Fullerton** become new technical representatives of the ProTurf Division of O. M. Scott & Sons. Cumps will cover western Massachusetts and Vermont and Fullerton will be working in the Arizona and New Mexico region.

* * *

Jeff H. King, appointed marketing services manager of Ackley Manufacturing.

* * *

James R. Davies, appointed to a three-year term on the Agricultural Economics Advisory Committee of the College of Agriculture at the University of Illinois. He is currently a pesticide products specialist with American Oil Company's Rural Marketing department.

* * *

William Miller and **Ray Hill** become agricultural chemical sales representatives for Thompson-Hayward Chemical Company.

* * *

Walter B. McCay, to midwest district manager, agricultural chemicals, for the Agricultural and Veterinary Products Division of Abbott Laboratories.

* * *

A major personnel reorganization of the market development department at Monsanto has taken place. **Dr. G. William Selleck** and **Dr. Earl C. Spurrier,** appointed senior development associates; **Ralph E. Althaus,** becomes regional manager — U.S.; development associates include: **Dr. Olin N. Andrews Jr.,** Albany, Ga.; **Dr. Douglas D. Baird,** Hilton, N.Y.; **Dr. Donald L. Barnes,** Des Moines, Iowa; **Robert L. Benson,** Indianapolis; **Roger C. Billman,** Orlando, Fla.; **Dr. Ronald G. Brenchley,** Fremont, Nebr.; **Dean A. Brown,** Yakima, Wash.; **Dr. Jerry D. Caulder,** St. Louis; **Claude W. Derting,** Memphis; **Robert G. Duncan,** Lubbock, Tex.; **Kenneth R. Frost Jr.,** Alexandria, La.; **Dr. Wylie B. Homesley,** Kansas City, Mo.; **Norman J. Probst,** Mankato, Minn.; **Gordon T. Reynolds,** Bloomington, Ill.; **Dr. Frank D. Timmons,** Raleigh, N.C.; **Harvey D. Tripple,** Findlay, Ohio and development representative, **Dr. Thomas F. Armstrong,** Madison, Wisc.; senior biologist appointed is **J. Marshall Magner,** St. Louis.

* * *

Richard J. Kotnour, named public relations manager for CF Industries, Inc.

* * *

Mancer J. Cyr, appointed to the new position of marketing planning manager for Bolens Division, FMC Corporation. **Charles F. Bartlett,** named general sales/marketing manager with responsibility for policy and programs; **Don R. Birdsall,** rejoined Bolens as advertising and sales promotion manager.

Eugene Lierz, joined the Moist O'Matic Division, The Toro Company, as sales coordinator. Will coordinate the sales of irrigation products to distributors.

* * *

Robert M. Morgan, appointed vice president of the newly formed Irrigation Division of Melnor Industries.

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control algae by biological means or in development of microwave equipment for use on water algae.

Another facet of vegetation management related to aquatics is control of weeds along ditchbanks.

"The ultimate aim in control of weeds along ditchbanks is to prevent erosion by carrying out management practices which will stabilize slopes," Dr. Rupert Palmer, a Texas extension agronomist reasoned. He recommended that applications of selective herbicides be made early and that a sod of perennial grass be established on the slopes.

Since industry became concerned with vegetation management years ago, many companies have had to decide whether to carry on their own programs or hire a weed control service.

At one time, Houston Lighting and Power Co. was spending about $200,000 a year for ground maintenance that was virtually all done by manual labor. Their vegetation management program began with cutting grass, planting trees and picking up trash; but they weren't able to keep up with vegetation problems around substations, right of ways and railway sidings.

Dusty Wolfe, a representative of HL and P, outlined his company's approach in selecting a vegetation control service:

"First we put down on paper exactly what we wanted. Then we knew that our company had to have a responsible person managing the program because he would be serving as an extension of us, and the public might be judging us by his actions. So we looked for a service which was knowledgeable about regulations and one that had reliable equipment."

"The buyer is only interested in buying results," Bill Held of Houston Spraying and Supply Co. said. "Let the buyer completely understand what he is investing in. Build relations for the future and don't oversell. Overselling is only a lowering of the industry's standards."

He told conference participants that one of the major obstacles in accurately determining costs and materials is a lack of definite specifications.

"Specifications should be realistic," he noted. "They should at least include a clear designation of the area to be treated, degree of control desired, rates of applications and schedules for applications and mowings."

Held suggested that a standardized specifications form approved by members of weed control organizations could reduce the number of misunderstandings arising from vague and incomplete specifications.

During other sessions of the conference selective vegetation management was discussed. George Richter of the Houston Department of Parks and Recreation talked about management with mowing. Dr. Dudley Smith, Texas Agricultural Experiment Station, spoke on control of herbaceous plants. Dr. R. W. Bovey of the USDA's Agricultural Research Service presented a program on chemical control of woody plants.

The final segment of the conference dealt with technology of application. James Shaw, ROWCO Co. of San Antonio, explained aerial distribution. Use of thickened sprays was discussed by Jack Thompson of Amchem Products, Jackson, Mississippi. Homer McCall of Texas A&M discussed current uses of foam and Dr. Marvin L. Beasley of the R. H. Bogle Co. of Alexandria, Virginia, spoke on polymers.

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GREEN INDUSTRY ASSOCIATIONS

(from page 78)

Corporation, Muncie, Indiana; Thomas A. Morrison, Treasurer, H. A. Morrison—Arborist, Wilmette, Illinois; William P. Lanphear, Immediate Past-President, Forest City Tree Protection Company, Cleveland, Ohio; Gerald E. Farrens, Director, Farrens Tree Surgeons, Jacksonville, Florida; Boyd Haney, Director, B. Haney and Sons, Inc., Franklin Park, Illinois; Kenneth B. Kirk, Director, Shield Shade Tree Specialists, Clayton, Missouri; George P. Tyler, Director, Consolidated Utility Equipment Service, Inc., Amherst, New Hampshire

Annual Meeting: February 18-22, 1973, Mountain Shadows, Scottsdale, Arizona.

Highlights of 1972: During 1972 the National Arborist Association saw the completion of the Professional Home Study Program in Arboriculture which is a major attempt by professional arborists to improve the practice of arboriculture through an industry-produced education program. Over 400 arborists are enrolled in the Home Study Program putting this magnificent industry education program well on its way to success.

The National Arborist Association also had the honor of commorating the 100th anniversary of Arbor Day climaxed by a ceremony conducted on the White House lawn in which the First Lady, Mrs. Richard M. Nixon, planted a tree presented by the NAA.

A major program which saw its inception in the latter portion of 1972 was the NAA Occupational Safety and Health Manual which was developed as a continuous information service for NAA members. The OSHA Manual was produced in November, and a specific OSHA topic is distributed to members each month for inclusion in the book.

Program for 1973: A continued effort will be made to keep arborists informed on the many aspects of the Occupational Safety and Health Act of 1970 through regular additions to the NAA OSHA Manual. Along with the OSHA program, a determined effort will be made to improve the tree care industry through the Professional Home Study Program. Industry educaton and training will be the targets of an all-out effort by the National Arborist Association to improve the professional practice of arboriculture throughout the nation.

Forecast for 1973: Occupational safety and health will be an important continuing program for the federal and state governments, and the tree care industry should make a maximum effort to comply with all reasonable regulations set forth by law. OSHA inspections will be more numerous in '73 than '72 because of the increasing numbers of inspectors. Another factor in the occupational safety and health area is the pending issuance of the Z133 Committee Report establishing standards for the tree care industry. Next year may well see the adoption of the report by the American National Standards Institute and its incorporaton in the federal OSHA standards.

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—meeting dates—

Texas Turfgrass Conference, Memorial Student Center, College Station, Tex., Dec. 4-5.

National Agricultural Aviation Association Conference, 6th annual, Las Vegas Hilton (international) Hotel, Nev., Dec. 11-14.

Ohio Turfgrass Conference and Show, Franklin County Memorial Building, Columbus, Ohio, Dec. 12-14.

Kansas State Shade Tree Conference, annual, Student Union, Kansas State University, Manhattan, Kans., Jan. 4-5.

Western Association of Nurserymen, 83rd annual meeting and trade show, Plaza Inn, Kansas City, Mo., Jan. 7-9.

North Carolina Nurserymen's Short Course and Trade Fair, 36th annual, University Student Center, N.C. State University, Raleigh, N.C., Jan. 7-9.

Golf Course Superintendents Association of America, 44th annual International Turfgrass Conference and Show, Boston, Mass., Jan. 7-12.

New York State Arborists Convention, Annual, Nevele Country Club, Ellenville, N.Y., Jan. 14-17.

California Weed Conference, 25th annual, Disneyland Hotel, Anaheim, Calif., Jan. 15-17.

Michigan Turfgrass Conference, 43rd annual, Kellogg Center, Michigan State University, E. Lansing, Mich., Jan. 16-17.

Southern Weed Science Society, 26th annual meeting, Jung Hotel, New Orleans, La., Jan. 16-18.

Ohio Chapter, International Shade Tree Conference, annual meeting, Sheraton-Columbus Hotel, Columbus, Ohio, Jan. 21-25.

Colorado Farm Show, Greeley, Colo., Jan. 22-24.

Associated Landscape Contractors of America, 11th annual meeting and trade exhibit, Doral Country Club and Hotel, Miami, Fla., Jan. 22-26.

University of Tennessee, one week Winter Short Course in Turf Management, West Tennessee Experiment Station, Jackson, Tenn., Jan. 22-26.

Rocky Mountain Regional Turfgrass Conference, 19th annual, Colorado State University, Fort Collins, Colorado, Jan. 25-26.

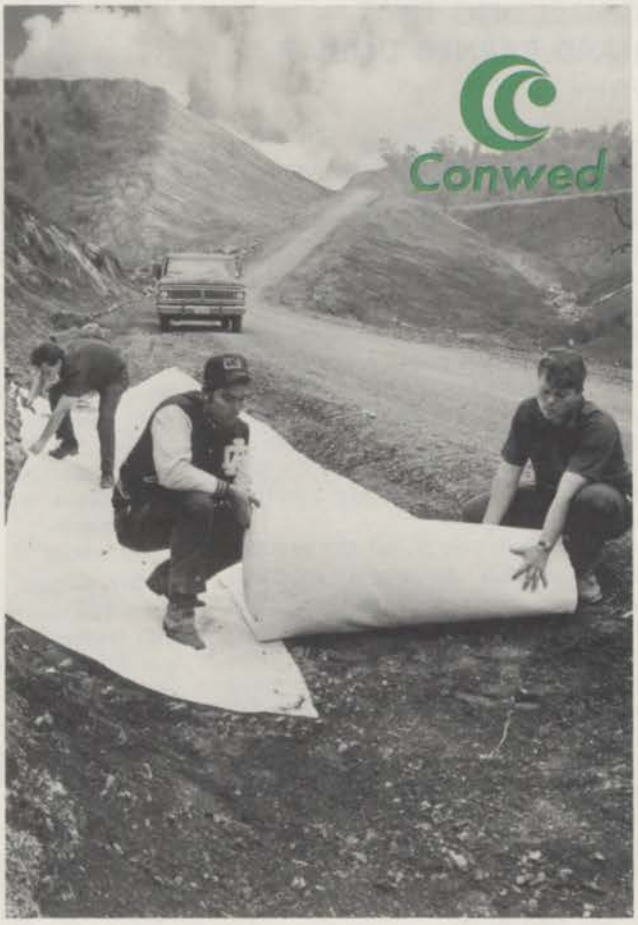
Penn-Del Chapter, International Shade Tree Conference, annual meeting, Marriott Motel, Philadelphia, Pa., Jan. 25-26.

Annual Winter Seminar for Commercial Arborists, O'Hare Concord, Rosemont, Ill., Jan. 30.

Virginia Turfgrass Conference, Sheraton Motor Lodge, Fredericksburg, Va., Jan. 30-31.

Tennessee Turfgrass Association, annual conference, Roger Millers King of the Road Motor Hotel, Nashville, Tenn., Feb. 5-6.

Midwestern Chapter, International Shade Tree Conference, annual meeting, Holiday Inn, 1926 W. Wisconsin Ave., Milwaukee, Wisc., Feb. 6-8.



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COLLECTING THAT HARD EARNED DOLLAR

(from page 21)

himself or for leverage when he knows the job will be a slow-pay one. Don't let yourself get pinched! Make sure **your** contract is with the person who will pay **you**.

Also make sure that you will get paid for your work **regardless** of any circumstances. Don't enter into any "you'll - get-paid - when - I - do" deals unless you can afford to lose your shirt if he loses his. Many small landscape and tree service contractors have gone broke by getting in too deep on a big job that went bankrupt.

Even when you do all the precautions possible to avoid payment problems, most everybody in this business will run into some difficulty in collecting the money due them for their work. (Some guys have a hard time just **asking** for their money.)

Even if you are shy, mild-mannered type, there should be nothing embarrassing about asking to get paid. After all it's not like asking for a hand-out.

Don't forget you have earned it, every cent of it!

Of course, no one wants to offend a customer, and there are some tactful, candy-coated ways of saying "I'd like to get paid now."

One way that has always made it easier for me is to have the customer "check out the job" just before we finished. That way I knew he was satisfied before I left, and 90% of the time **he** will bring up the matter of payment.

Another way I found successful (especially if the person who was paying me wasn't home) was to say something like "I'll stop back after dinner to see if everything was satisfactory with Mr. Jones." That was enough to imply I'd be collecting and believe me if anything wasn't satisfactory I'd hear from "Mr. Jones" before I had a chance to stop back.

Which brings us to the case of the Never-Satisfieds, and they exist.

I once had a case where we did a tree take-down job for about $225.00 during the winter. We made a short tire rut on the lawn with our brush chipper. I promised to fill the rut with topsoil and re-seed it as soon as the weather permitted. And I was sincere. But this Never-Satisfied was going to withhold the entire $225.00 till I completed the job to his satisfaction, which meant about a six week wait before I could get my money.

My reply?

"Mr. Jones, my men and I have done $225.00 worth of work for you and trusted you to pay us when we got done. We didn't ask for a nickle in advance. That sod job is worth, at-the-most $25.00. If we trusted you for the $225.00, I think you should trust us for $25.00 don't you?"

He agreed.

Try that reply next time somebody is giving you a hard time about a small detail which you can't take care of right away. It usually works.

Slow-pay customers can cause much grief and sometimes they are hard to prod without offending. Try giving them a good reason why you need the money soon and a definite time when you want it. Such as: "I'll have a large payroll this week and my funds are pretty short, can I pick up the check for your job this Thursday?" This way they don't feel hounded, also they have time to get the money even if they have got to jiggle some other bills.

The genuine Deadbeat is, fortunately, a rare breed. In the final analysis they'll come out ahead of you almost everytime. Even if you take them to Small Claims Court, or a magistrate, at best all you can get out of them is a **promise** that they'll pay. The magistrate may get a few dollars in "costs" but that won't make **you** any richer. In fact, it will **cost** you money to get a summons served.

If you belong to a credit service, you might get their future credit blackballed but if they're real Deadbeats that's probably already happened. Ruining their credit rating still won't pay their overdue bill.

Make sure you have appealed to both mates in the family, (Maybe one is more conscientious than the other).

I once had a situation when the woman told me she didn't know when her husband would pay me . . . and when I called he was never there. I met him one morning on his way to work, and found out he had given his wife my money not once, but three times, and each time she said she had paid me but later told him she bought clothes etc. He gave me $25.00 on the spot and paid me the rest himself two weeks later.

Most people don't pay on time for one of these three reasons. 1. They are not satisfied. 2. They forgot. 3. They don't have the money. Numbers 1 and 2 you can remedy. As for No. 3, well, you'll have to help them find a solution to their problem before you can solve yours. Happy Collecting.

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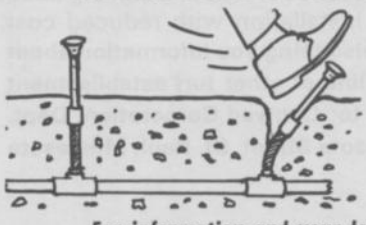

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— classifieds —

When answering ads where box number only is given, please address as follows: Box number, c/o Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

Rates: "Position Wanted" 10¢ per word, minimum $3.00. All other classifications 20¢ per word, minimum $4.00. All classified ads must be received by Publisher the 10th of the month preceding publication date and be accompanied by cash or money order covering full payment. Boldface rule box: $25.00 per column inch.

HELP WANTED

LANDSCAPE MAINTENANCE, salesman, supervisor. Do you get satisfaction out of seeing an industrial or public property well maintained knowing you estimated the requirements and the price, bought the necessary equipment and supplies, hired, trained and supervised the men and ended up with a good looking property and a well satisfied client? If so and if you have the right educational background and experience and would like an opportunity to take over a well established landscape maintenance department and push it into something really worthwhile, drop us a line. We've been in business in the suburban

Philadelphia area 45 years and think we can offer you a position that includes a challenge, satisfaction and a good income. Heyser Landscaping, Inc., 400 N. Park Avenue, Norristown, Pa. 19401. Phone 215 539-6090.

POSITIONS OPEN for 2 qualified men on expanding turf farm. Experience in all phases of turf farm operation necessary for both positions and experience in sales and management required for one position. 90% of turf, muck grown, modern harvesting equipment used, considerable irrigation equipment used. Excellent future, top salary, transportation, paid hospitalization, etc. Write giving complete resume to Anthony L. Peca, Pres., Batavia Turf Farms, Inc., Box 662, Batavia, N.Y. 14020.

EXPANDING TREE SERVICE company in northeast—looking for aggressive and experienced salesman. Starting pay commensurate with education, experience, and ability. Commission also paid on profits earned. Company car furnished: pension plan; paid hospitalization, excellent future. Send resume (with current annual sales and earnings) to Box 133, Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

HORTICULTURE INSTRUCTOR. Prefer B.S. Degree and minimum of 3 years field experience. Able to teach Turf and Nursery Management, Landscape Design and be familiar with operation and servicing of horticultural equipment. Send resume to: Community and Personal Services Division, Community College of Denver — North Campus, 1001 E. 62nd Avenue, Denver, Colorado 80216.

DISTRIBUTORS for D. J. Andrews, Inc. stump cutter teeth, pockets and bolts. Best wholesale and retail price in U.S.A. Add to this exclusive area, local advertising at our expense, etc., and you have our story. D. J. Andrews, Inc., 17 Silver St., Rochester, N.Y. 14611. Call 716 235-1230, or 716 436-1515.

SOD NURSERY MANAGER. Young, married man for 400 acre operation serving Chicago metropolitan area. Send resume. Box 91, Weeds Trees & Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

POSITIONS WANTED

DESIRE POSITION as arboriculture field supervisor with private firm, city, county or state shade tree activity. More than four years of first-line supervision and better in municipal arboriculture. Married, two children. Military obligation complete. Willing to relocate; prefer northern U.S. Resume sent on request. Box 93, Weeds Trees and Turf, 9800 Detroit Ave., Cleveland, Ohio 44102.

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SOD QUALITY MERION SEED for discriminating growers. Also Fylking, Delta, Park, Newport, Nugget and Pennstar bluegrasses as well as fine fescues. We will custom mix to your specifications. Michigan State Seed Company, Grand Ledge, Michigan 48837. Phone 517 627-2164.

MISCELLANEOUS

TREE APPRAISALS, SURVEYS, loss evaluations and expert consultation services. For names of members of the American Society of Consulting Arborists, Inc., throughout the country, contact: Executive Director ASCA, 12 Lakeview Ave., Milltown, New Jersey 08850.

MISCELLANEOUS WANTED

WANTED—For seasonal firm with 3,000—6,000 sq. ft. of new warehouse plus fenced ½ acre of storage with 5 employees interested in manufacturing or assembling operation from Dec. 15th-March 15th. Contact: Turf Specialists, P.O. Box 925, Holbrook, L.I., N.Y. 11741. Phone 516 981-1118.

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FULL LINE OF USED TREE equipment for sale. We accept trade-ins and buy used tree equipment. New service available for northern Ohio. We now rent skyworkers, tree spades, brush grinders, 84' National crane, stump grinders and wood splitters. Edwards Tree Service, 3190 Cooper Foster Park Road, Vermilion, Ohio 44089. Phone: 216 967-6750 or 933-6750.

1967 FORD with McCabe power aerial basket, 47' working height, $4,000; 1966 Ford with 1044A Skyworker, 50' working height, $7,000; 1966 Dodge with Prentice loader, 14' bed, $7,000; Vermeer stump cutter No. 18, $2,500; Asplundh 12" chipper V/8 engine, $2,300. Bob's Tree Service, 5148 No. Flora, Kansas City, Mo. 64118. Phone 816 454-2242.

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DOUBLE EDGE sod cutter blades. Will fit any Ryan sod cutter. Works like double edge razor blade. Cuts much more sod per blade. Made to bolt on both ways. $24.00 plus postage. New automatic sod loaders for direct loading to pallets, trucks or trailers. No workers needed on ground. Both products developed and designed by Hadfield. Write or call Glen Hadfield, 4643 Sherwood, Oxford, Michigan 48051. Phone 313 628-2000.

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—Advertisers Index—

Adelphi Kentucky Bluegrass 34
The Agricultural Alumni Seed Improvement, Inc. 27
American Arborist Supplies 39
Applied Biochemists, Inc. 83
Arps Corp. 37
Asplundh Chipper Co. 9
John Bean Div., FMC Corporation 29
Beck Mfg. Co. 63
Bermuda King Co. 38
Brighton By-Products Co. 37
Brillion Iron Works 86
Brouwer Turf 53
Bunton Co. 14-15
Caretree Systems 55
Chemagro, Div. of Baychem Corp. 33
Conwed Corp. 87
Creative Sales, Inc. 28
Deere & Co. ..... 3rd Cover
Diamond Shamrock Chemical Co. ..... 2nd Cover, 3
Dow Chemical Co. ..... 4, 4th Cover
E. I. DuPont de Nemours & Co., Inc. 7
E-Z Rake, Inc. 57
FMC Corporation, Niagara Div. 8
G & H Products, Inc. 67
Goodall Co. 18-19
Great Lakes Biochemical Co. 69
Guildsmen Co. 59
Hercules, Inc. 41
Howard Rotavator Co. 61
H. D. Hudson Co. 35
Hydro Turf 52
Hypro, Div. of Lear Siegler 21
International Harvester Co. 46-47
Jacklin Seed Co., Inc. 10
Jobe's Tree Food Spikes 61
Johnson Hydraulic Equipment Co. 44
King Bros. Industries 88
Lawn Medic, Inc. 45
The Limb Lopper Co. 25
Lumenite Electronic Co. 39
3M Co. 66, 84
Magline, Inc. 65
J. J. Mauget Co. 66
Merck & Co., Inc. 31
Mitts & Merrill, Inc. 85
Mobile Aerial Towers, Inc. 59
National Arborists Assn. 67
National Hydro Ax 65
National Mower Co. 51
Nunes Sod Harvester 30
PBI-Gordon Corp. 43
Power Equipment Imports 50
Rain Bird Sprinkler Mfg. Corp. 5
Ryan Turf Equipment 32
Safety Test & Equipment Co., Inc. 69
Spraying Systems Co. 67
Stanford Seed Co. 61
Stihl American, Inc. 22
Twin City Seed Co. 82
Vermeer Mfg. Co. 49

trimmings

FINGERPRINTING PLANTS biochemically is one of the most fascinating areas of research today. James L. Brewbaker, University of Hawaii horticulturist, is fingerprinting plants by distinguishing various enzymes. Known as gel electrophoresis, the method is employed in varietal description where plant varieties are otherwise indistinguishable. This method appied to hybrid corn would permit identification of 2,247,370,997,760 different parent or inbred lines of this important crop.

A PROBLEM WEED INTO PROFIT is how a midwestern animal scientist views water hyacinth. Looking at the weed in terms of forage, R. L. Vetter, Iowa State University, says that 84 tons of plant material, or about five tons of dry matter, were produced per acre in a lagoon. Processed hyacinths have some feed value when fed at one-third of the total ration. One new area to consider is the use of water hyacinths in lagoons and sewage ponds. The actively growing plant can remove about 500 pounds of nitrogen and 18 percent of the phosphorus per acre of lagoon. Possibilities also exist for use of water hyacinths as an organic fertilizer. Spread it with conventional manure spreaders.

ARS SHADE TREE AND ORNAMENTAL PLANTS LABORATORY at Delaware, Ohio, will command the spotlight at the Wholesale Nursery Growers of America, Inc. annual meeting at the Arlington Park Towers Hotel, Arlington Heights, Ill., January 14. "A Day at Delaware" will feature speakers on genetics and breeding of elms and maples, vegetative propagation, woody plants as environmental filters, disease control in landscape plants, research trials, and others.

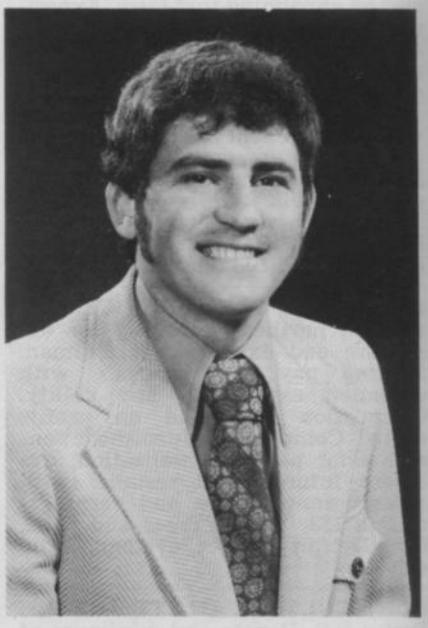
LD_{50} is a term batted around in chemical circles. It means a dose of sufficient quanity to kill half of a test population. It gives a measurement of the potency of the chemical in relation to other chemicals. Promotion of the lethal dose is the latest fad in teaching the public about toxicity of environmental protection chemicals. Walter Weber, technical director of pesticides at the Indiana Farm Bureau Cooperative, has created a large display promoting this theme. Based on acceptable tolerances and residues permitted on a crop, an average 150 pound man would have to eat 90,000 pounds of apples to ingest a lethal dose the same as Captan fungicide. Of corn threatened with atrazine, this person must eat 1,848,000 pounds.

ANOTHER VIROID has been isolated by a USDA scientist. What's a viroid? It's a newly discovered class of infectious particles smaller than a virus. Dr. Theodor O. Diener, pathologist with the Plant Virology Laboratory of USDA's Agricultural Research Service (ARS), said the second viroid has been shown to cause chrysanthemum stunt disease. It was isolated from the leaves of affected plants. The first viroid was found to be the agent of potato spindle tuber disease.

Since two different viroids have now been shown to exist and to cause specific diseases. Dr. Diener is convinced that viroids "are not unique anomalies and are very likely widespread in nature." Other plant diseases, as well as animal and human diseases, such as multiple sclerosis, infectious hepatitis and some types of cancer, may be caused by viroids. "Such diseases," Dr. Diener said, "have some common patterns that lead one to suspect a viroid orgin."

PRESCRIPTION ATHLETIC TURF is proving to be viable alternative to artificial turf, wherever wear is not excessive. And the cost of installation is much lower per unit area. If it rains just turn on the suction pumps and pull the water down into the porous root zone before the surface is saturated. Heating cables extend growing season, prevent frozen soil and aid in snow melting. Vented field covers conserve moisture and heat, and minimize frost during fall, winter and spring. Add a tight sod of bluegrass, zoysia or bermuda and you have a turf that can counteract the extremes of weather. The system was developed by two Purdue University agronomists who call it PAT (prescription athletic turf).

BACILLUS THURINGIENSIS BERLINER products must now be expressed in terms of International Units (IU) of potency. B.t. is a biological compond used to control insects. Labels must now state potency per milligram of product as determined by bioassay. A product having a potency of 500,000 IU per milligram will be considered to consist of 100 percent active ingredients and the percent of active ingredients will be calculated on this basis.



Dennis Holewinski

Environmental Services Started By Asplundh

The Asplundh Tree Expert Company has broadened its scope of operations by forming a new Environmental Division to help utilities surmount the evergrowing problems of ecology.

According to Hyland Johns, vice president, the new Asplundh Environmental Division "will provide a single source of responsibility in ecological matters for utilities which was previously unavailable and will be staffed by a group of experts with a wealth of experience in environmental planning and landscape architecture."

The new division will be administered through the offices of all field division managers of the Company and offers utilities the following services: land use planning, landscape construction and planting, substation planting design and construction plans, transmission right-of-way selection, recreation area development, specifications and guidelines on soil, vegetation, wild life and other resource problems.

The Asplundh Environmental Division is headed by Dennis Holewinski, a graduate landscape architect. He brings considerable experience in the field as a former member of the staff of the Illinois Highway Department.

"JD570-A gives us the advantage on larger finishing and seeding jobs"

Ron Schaefer, President
Schaefer-Meyer Grading, Inc.
Florissant, Missouri

With some large industrial-tract work, highway sloping and finishing contracts, Shaefer-Meyer use their JD570-A Motor Grader in place of a tractor-box scraper for precision finishing. "Now we do our seeding right behind the grading crew—no delay of one or two days, with the chance of rain requiring work done over. We planned to use the John Deere only about 100 hours per year, but it's proved so practical we're using it far more than that. We rented an earlier model and felt it was the only automatic that would fit our work. Controls are fast and smooth and it gets in the corners real close."

Measure this 85-net-hp machine with an 18-foot turning radius against your jobs. See your John Deere dealer, listed in the Yellow Pages—and ask about financing and new RV leasing. John Deere, Moline, Illinois.

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